Adaptation to cancer

from an

attachment theoretical perspective

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PREFACE

The Attachment theory posits that early childhood experiences with caregivers are important in whether adult persons see themselves as worthy of love and care, and expect that others are available and willing to care for them when needed. This in turn is assumed to influence their response when they are confronted with a stressful event. The pattern of feeling, thinking and behaving in stressful times to retain feelings of emotional comfort is called 'attachment style'. According to the Attachment theory, persons who experience difficulties in being close to others, may be more vulnerable to feel distressed and uncomfortable than persons who feel secure within relationships with others. In this thesis, we examined the role of adult attachment style within the process of adaptation to cancer.

General tenets of the Attachment theory are introduced in the General introduction of this thesis (*Chapter I*). In the chapters thereafter, we present our studies on the relationship between attachment style and adaptation to cancer. In our first study, we examine insecurely and securely attached patients' self-reported distress and clinically assessed psychopathology (*Chapter II*). In our second study, we examine insecurely and securely attached patients' quality of life, and how central the cancer is to their concept of self and life (*Chapter III*). In our third study, we examine the relationship between responses on distress questionnaires and a clinical diagnostic interview, and explore whether insecurely and securely attached patients with and without psychopathology, show differences in self-reported distress (*Chapter IV*). In our fourth study, we examine insecurely and securely attached patients' process of adaption to cancer, and how this process is related to patients' self-reported distress (*Chapter V*). In our fifth study, we examine insecurely and securely attached patients' trust in and satisfaction with their physician, and how their trust and satisfaction are related to patients' self-reported distress (*Chapter VI*).

In the final (*Chapter VII*), our findings and implications for research as well as clinical practice will be summarized and discussed. Case vignettes are provided throughout the thesis, to offer examples of how persons with different attachment styles may experience their illness situation. The vignettes are based on the literature and the interviews we conducted.

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CHAPTER 1

General introduction

1.1 Being diagnosed with cancer

Every year, around 90.000 persons in the Netherlands are being diagnosed with cancer, and this number is expected to increase due to aging of the population. At present, the chance that a person is diagnosed with cancer at any point in life, is 44% for men, and 38% for women. The term cancer refers to over a 100 types of diseases, all having in common an uncontrolled multiplying of cells, resulting in a tumor. The prognosis of the disease depends on amongst other things tumor site, stage, and physical condition of the person. Fortunately, nowadays the majority of persons diagnosed with cancer survive; around 60% of all diagnosed persons has an expected survival of at least 5 years.[1]

However, even if the prognosis is relatively optimistic, the threat of death and suffering that is related to the diagnosis of cancer induces feelings of vulnerability and fear. Moreover, for many persons the treatment of cancer is intense and burdensome. Persons are faced with many uncertainties concerning their physical condition, for example whether the treatment will be effective and what side effects they will have to deal with. They may also be concerned with a change of roles, for example from care giver to care receiver. This may lead to increased levels of distress.[2] After this initial phase persons start to realize what has happened, and emotions such as fear, anger and depression surface. Moreover, the treatment has not only attacked the cancer, but also a person's health. Persons may feel fatigued and vulnerable, insecure about whether their body can be trusted, and may be frightened that someday the cancer will return. Many persons feel depressed, and for some of them, the level of depression does not decrease over time.[3-5] The incidence of emotional distress during the period of illness, ranges from 35 to 45%.[6] Still, most persons are able to adjust to their illness, that is, come to grips with the situation and their feelings. They may, for example, profit from closeness with their partner or friends for comfort and reassurance, which helps them confront the challenges they are faced with. However, the capacity to adjust to, and deal with cancer, differs among people. According to attachment theory, persons who experience difficulties in being close to others, may be more vulnerable to feel distressed and uncomfortable than persons who feel secure within relationships with others.

1.2 Adult attachment styles

1.2.1 Introduction of Attachment Theory

John Bowlby[7-11] (see Box 1) founded Attachment Theory in the sixties of the past century. Bowlby theorized that children have a genetically predisposed motivation to seek closeness to a significant other (often the mother) for comfort and safety, when they are confronted with a stressor. He expected that when this natural process is interrupted, children would develop difficulties with interpersonal closeness, which manifest themselves in the (unconscious) suppression or amplification of their proximity seeking response ('insecure attachment', see Box 3). Mary Ainsworth[12], Mary Main[13] and Anna Freud[14] have performed much empirical research investigating the manifes-

tation of attachment patterns in early childhood, and their findings confirmed Bowlby's ideas. Furthermore, Bowlby posited that the absence of warm and continuous relationships may have significant direct and indirect consequences for mental health in adulthood. During the past decades, an abundance of studies have shown this idea to be true. Failures in early attachment relationships, especially when children are abused and/or neglected, are likely to impair brain functions that regulate stress, and hamper one's abilities of flexibly responding to changing environmental circumstances, leading to infant and adult mental health problems.[15, 16] Thus far, there is no consensus on the likelihood that a person's attachment style as a child, is being transitioned into adulthood. It is difficult to directly compare persons' childhood and adult attachment style, because amongst other things the theoretical construct and way of measuring infant attachment are different from those within adult attachment research.[17, 18] However, it is generally assumed that attachment experiences in childhood may to a certain extent influence adult persons' beliefs about their worthiness to receive love and care, and the beliefs about the safety and support others in general will provide when needed. Such sets of beliefs are called 'working models of attachment'.[19] Working models guide persons' thoughts, feelings and behavior in such a way, that persons pay more attention to, and interpret, events and behavior of others in a manner consistent with their existing beliefs. Therefore, working models are showing a certain consistency over time.[20] On the other hand, working models can be conceived as dynamic cognitive structures that can be updated, elaborated or replaced when life circumstances change.[21] When persons mature, they start attachment relationships with friends and romantic partners[22], and persons' new attachment relationships may not be equivalent to the attachment relationship with the parents.[23] Persistent attachment experiences that contradict existing beliefs about self and others, either secure or insecure, may affect persons' working models, for example by making them less cognitively accessible. However, although insecurely attached persons may come to believe that certain others may provide safety and support when they need it, general attachment orientations (about other persons in general) often remain. In this regard, it should be noted that it is difficult to directly compare a person's attachment style as a child and as an adult.

Box 1. Short history of John Bowlby, the founding father of attachment theory

Edward John Mostyn Bowlby (1907-1990) was born in an upper-middle-class family in London at the start of the 20th century. As common amongst her social class, John's mother believed that parental attention and affection would lead to spoiling of children, and therefore she did not spend more than one hour a day with John. Fortunately, John had a loving and caring nanny, who took primary care of him during his early childhood. When John was four years old, his nanny left the family, which he later described as a tragic loss. At the age of seven, his parents sent John to boarding school, a period he experienced as a terrible time. His own adverse childhood experiences made him sensitive to children's suffering when he became an adult. Later, John Bowlby studied

medicine in Cambridge and psychology in London, meanwhile starting a training at the British Psychoanalytic Institute. At the age of 30 he qualified as a psychoanalyst.

In his work with maladapted and delinquent children, Bowlby witnessed a variety of wartime events involving the separation of young children from close others. He then became interested in the patterns of family interaction involved in person's psychological development, and developed the idea that the maladaptive behavior of children might result from adverse affective relationships in early childhood. He was not satisfied with traditional theories such as Freud's, which assumed that a child learns to be attached to the mother because she provides food and love, increasing the child's chances of survival. Based on findings from fields such as evolutionary biology, developmental psychology, ethology and cognitive science, Bowlby theorized that attachment is primarily based on a child's need to feel safe and secure, and that a child becomes spontaneously attached to his mother, driven by its genetically predisposed motivation to avoid threat. Based on preliminary empirical efforts, he assumed that the absence of warm and continuous relationships may have significant consequences for mental health in adulthood[10], an idea that, at that time, was quite controversial. Mary Ainsworth, a colleague of Bowlby, experimentally tested his ideas. She stated that distinct attachment styles in children exist, and that not only the presence of interpersonal bonding, but also the quality of the bonding is essential.[12] Hazan and Shaver[22] proposed that attachment relationships could be extended to the forming of romantic relationships. Since then, an abundance of studies has shown that attachment styles indeed are related to specific feelings, thoughts and behavior in romantic and other close relationships.

1.2.2 Description of attachment styles

One's attachment style refers to the pattern of feeling, thinking and behaving in stressful times to retain feelings of emotional comfort. Persons who have positive experiences concerning the availability and responsiveness of close others in stressful situations, develop a secure attachment style (see Box 2). This style is characterized by positive expectations of one's own ability to cope with stressors, the belief that one is worthy of love and care, and the idea others are available and able to provide support when needed. Securely attached persons are described as e.g., confident, cooperative, dependable, easy going, stable, warm, and sympathetic.[24]

When the formation of good quality bonds is hindered, persons become insecurely attached (see Box 3). There are several patterns of insecure attachment, having in common doubts about the extent to which others can, or want to comfort them when they feel distressed. However, insecurely attached persons differ in their motives for distrusting others and their subsequent behavior. In the adult attachment literature, insecure attachment patterns are described by a diversity of labels, depending on amongst

others the type of measurement. Bartholomew & Horowitz[25] have provided a two dimensional model, containing four attachment style categories. It encompasses a continuous (level of interpersonal anxiety and avoidance) and categorical (positive or negative working models of self and others) typology. These categories have shown to be useful in medical settings, as they make the different attachment styles easier to recognize for clinicians.[26] The three insecure styles that are being distinguished are the preoccupied (anxious), avoidant (dismissing), and fearful attachment style. The Attachment Style Interview for adults[27] that is conducted within the present study to assess attachment style, is based on this model.

Persons who are *preoccupiedly attached*, have a negative working model of one's self and a positive model of others, and show anxiety within relationships. They have low confidence in their ability to take care of themselves, and therefore turn to others for emotional support. Because they are anxious that others will not be available when needed or will reject them, they are preoccupied with keeping the other close in order to maintain feeling secure. However, they always feel that support is insufficient, which sometimes makes them feel angry at others. They are typically described as e.g., dependent, emotional, spontaneous, needy, reassurance seeking, self-revealing, and expressive.[24]

Avoidantly attached persons have a positive working model of self and a negative model of others, and are avoidant within relationships. They perceive others as unavailable and unable to provide adequate support when needed, and therefore value independency and self-control. They deny attachment needs and feel uncomfortable with emotional closeness, which they themselves typically describe as a need for privacy. They are described as e.g., autonomous, independent, rational, tough, unemotional, indifferent and headstrong.[24]

Fearfully attached persons have negative working models of both self and others, and feel anxious but behave avoidantly within relationships. Because they feel unable to cope with stressors on their own, they have a high need to be with others. However, they expect others to reject and abandon them when they get too close, and therefore avoid talking about their emotions and becoming close to others. They are described as e.g., cautious, distrustful, doubting, introverted, self-conscious, shy, and withdrawn.[24] It is important to note that the different characteristics (such as dependency) of an attachment style as described above, are neither necessary, nor sufficient in itself to indicate a certain attachment style; it is the combination of several characteristics representative of an attachment style, that makes classification possible.

Box 2. Development of secure attachment bonds

In early childhood, persons need others (often the primary caregiver) to be available, sensitive and responsive to their needs for reassurance when they are distressed. The caregiver can help regulating the infant's anxiety by being present and providing warmth and comfort when something threatening happens (e.g., when ill, or in pain), i.e., by functioning as a 'safe haven'.

At the same time, the caregiver may function as a 'secure base', from which the infant independently can explore and learn to master the environment during day-to-day activities.[7, 9, 10, 12, 28, 29] When security and safety needs are consistently met by the caregiver, children develop a 'secure attachment style'. The internal working model of securely attached children predicts that they are worthy of love and care, and that others will be available and able to provide feelings of security when needed. Securely attached children feel that their own actions can often reduce distress, and that seeking support is an effective way to cope with stressors. In adulthood, these beliefs are characteristic in securely attached persons.

Box 3. Development of insecure attachment bonds

The development of a secure attachment style may be hindered when caregivers are primarily insensitive or unresponsive to the child's need to be safe, or not consistent in their interactions. Furthermore, children may experience life events in a later stage of development that hinder secure attachment. An example of such an event is absence of a caregiver to whom the child can be attached, for reasons such as long-term hospital admission of the child, sudden death of the primary caregiver, or physical or sexual abuse by a family member. Under such circumstances, children may develop the idea that others are not available or supportive when needed, and some children believe this being due to their unworthiness to receiving love and care. Such negative schemes of the self and/or others are indicated as 'insecure attachment styles'. Insecurely attached children develop other ways to retain feelings of security when confronted with a stressor. For example, some children may constantly claim the attention of others to ensure their availability (when caregivers' behavior is unpredictable).[12] In adulthood, this behavioral pattern is typical for preoccupiedly attached persons. Other children only dare to rely on themselves and unconsciously prevent themselves from feeling distressed by suppressing negative emotions (when caregivers consistently fail to provide a safe haven in times of need).[12] In adulthood, this pattern is typical for avoidantly attached persons. The fearful attachment style typical for adults, is not explicitly described as a pattern in childhood. However, studies asking persons about childhood relationships with their parents, report that fearfully attached persons remember their parents as hostile, and showing little affection or acceptance.[30-32] Because insecurely attached children are concerned about attachment needs, they are not free to direct their energy and attention to non-attachment related activities, as securely attached children are.[33]

1.3 Attachment style in the context of cancer

As attachment theory proposes that attachment styles are salient especially under stressful conditions[7, 20], persons' attachment style is assumed to be related to persons' thoughts, feelings and behaviour in the context of cancer. The following paragraph offers a reflection on how persons' attachment style may be manifest in medical practice, and may influence persons' response to their illness. Our reflections are based on knowledge of attachment styles in a more general medical context.

1.3.1 Attachment styles in medical practice

When threatened by illness, persons may regard physicians as having the power and expertise to provide safety. Therefore, persons may form temporary attachment bonds with their practitioners.[34, 35] The different psychological and behavioral responses of securely and insecurely attached persons may therefore be manifest in persons' interaction with the medical staff. Amongst others, Maunder and Hunter[35], Hunter and Maunder[36] and Tan, Zimmerman & Rodin[37] have provided elaborate descriptions of adult attachment patterns relevant for health care professionals.

The *securely attached* person is experienced as a relatively 'easy' patient, with whom physicians have rewarding encounters.[36] Securely attached persons have a strong sense of alliance with their treating physician. They express their feelings and request the support they need in a way that does not alienate others. Securely attached persons usually feel more fully supported by the medical staff.[38]

Insecurely attached patients on the other hand, may show a range of dysfunctional types of behaviors and are challenging for physicians. The *preoccupiedly attached* person typically shows 'compulsive care-seeking behavior', i.e., dependent and clingy, intimacy seeking behavior, in an attempt to ensure their physician's availability.[36] Their internal working model predicts that showing distress is the best way to maintain proximity to the medical staff. Because their need for intimacy is never satisfied, they may employ flattery behavior or even a clear plea for proximity[39] to keep the other close. Separation and parting, for example at the end of a medical appointment, are experienced as stressful.[40] Preoccupiedly attached persons may make many medical appointments without medical necessity, leading to high primary care costs.[41]

Avoidantly attached patients typically show defensiveness against building alliance with their physician, and are experienced as 'compulsively self-reliant'[36]. Because they distrust the professional involvement or expertise of their physician, they have a strong need of self-control. They therefore appreciate receiving the facts about their condition, and like being involved in making treatment decisions. When provider-patient communication is poor, they may show non-compliant behavior and make not enough health care visits, which may lead to negative health outcomes.[42, 43] However, when avoidantly attached persons do trust their physician and treatment, they may show strong or even rigid compliance with treatment prescriptions.

Fearfully attached patients are experienced as most difficult to communicate with, as they typically show approach-avoidance or even hostile behavior. They distrust intentions of the medical staff, but also feel incompetent to make decisions for them-

selves. They show a high frequency of medically unexplained symptoms, but avoid seeking medical help, and often do not show up for appointments.[41, 44-46]

1.3.2 Attachment styles and the psychological response to cancer

Only few previous studies have examined the relationship between attachment style and cancer-related distress. These cross-sectional studies reported that insecurely attached persons with metastatic cancer[47, 48] and end-stage cancer[49] experience more self-reported distress than securely attached persons. Insecurely attached persons who survived cancer for one year, also experienced more self-reported distress than securely attached persons.[50]

Although the *secure attachment style* is characterized by resilience in light of stressful events, this does not mean that a securely attached person does not experience intense distress when diagnosed with cancer. The physically and emotionally demanding nature of cancer and its treatment, may influence securely attached persons' level of distress too. However, securely attached persons are assumed to be better able to come to grips with their situation than insecurely attached persons; to them, distressing emotions can be acknowledged, accepted and recovered from.[35] Securely attached persons may be distressed by their cancer diagnosis, but are likely to feel less distressed by minor stressors such as making treatment decisions and having to visit the hospital on a regular basis, as they trust that others will support them in these matters.[35] Furthermore, they typically feel more comfortable talking about their anxieties and worries to their family and friends[51], and have the capacity to soothe themselves and be soothed by others.[35]

Insecurely attached persons may not only feel distressed by the cancer diagnosis, but also by aforementioned stressors such as making treatment decisions. More in general, insecurely attached persons are found to perceive events as more stressful, and have a higher level of self-reported general distress than securely attached patients after stressful events.[20, 52-56] Furthermore, they are found to be less able to intentionally regulate negative emotions, and to effectively elicit and make use of social or professional support.[52, 57-60]

In the context of a cancer diagnosis, it is likely that *preoccupiedly attached* persons feel overwhelmed by emotions, and have difficulties calming themselves. Because they feel they need others to calm them, they may put much energy in keeping others close (hyperactivating attachment strategy).[61] Their sometimes demanding way of doing this, for example by amplifying their expressions of distress and showing clingy behavior[61], may evoke reactions of others that are perceived as rejecting by a preoccupiedly attached person. Moreover, even when others provide as much support as they can, preoccupiedly attached persons may feel support is never enough.[58] During the process of adjustment to cancer, they may be hypervigilant for physical feelings and symptoms[62], as these may indicate cancer-related problems. Furthermore, they may ruminate on their cancer and worry about their relationships.[63] However, they may take little time to acknowledge and understand their emotions, as they expect reflecting on their feelings to cause emotional pain.[51, 64]

Avoidantly attached persons may show little distress when hearing they have cancer, as they hyperregulate their emotions.[35] That is, they immediately and unconsciously suppress negative feelings. They do experience distress, but rather at a physiological level.[62] Avoidantly attached persons value their independence and self-control.[40] Having cancer means losing control of one's own body and becoming dependent on others, which is very frightening to them. They may however cognitively distance themselves from their fears, and avoid talking about their cancer or worries.[59, 63] Because they are used to relying on themselves in difficult times, they withdraw themselves from others (deactivating attachment strategy) and show minimal help seeking behavior.[59, 61] They expect that others do not genuinely care for them, and moreover, they do not find emotional closeness soothing. However, when confronted with cancer, self-reliance may no longer be feasible. They may for example have to ask someone to bring them to the hospital when they cannot visit the hospital on their own. This dependency on others may cause additional distress. Moreover, the suppression of distressing thoughts and feelings[63] requires constant cognitive efforts, and may occasionally fail to work under the severe circumstances of having cancer. This may result in intrusion of unwanted thoughts and feelings, and increased physical problems and altered autonomic functioning.[62, 63]

Fearfully attached persons are likely to feel extremely distressed when having cancer.[61] Their low level of self-confidence may make them worry whether they will be able to confront all the challenges the cancer and its treatment bring along. Their typical attempts to manage or suppress their emotions, for example by meditating or distracting themselves, may often fail in the distressing context of cancer. Because they are unable to soothe themselves, they may desire seeking closeness to others. However, they typically withdraw themselves from others, and do not talk to others about their anxieties and worries. This way, they aim to protect themselves against rejection and additional emotional pain and distress. Moreover, being close to someone does often not result in feelings of safety and comfort.[35]

1.4 Design of the study

1.4.1 Research questions

Our main aim is to examine the relationship between attachment style and adaptation to cancer, from three to 15 months after a cancer diagnosis. We conduct five studies in which we examine several aspects of patients' adaption process.

In the first study (*Chapter II*), we examine the relationship between attachment style and current self-reported present psychological distress, and between attachment style and current clinically assessed psychopathology, at three and 15 months after diagnosis. In addition, we examine insecurely and securely attached patients' level of self-reported lifetime prevalence of psychopathology.

In the second study (*Chapter III*), we examine the relationship between attachment style and health related quality of life, and between attachment style and cancer centrality, within 15 months after a cancer diagnosis. Furthermore, we examine the rela-

tionship between quality of life and cancer centrality at 15 months after diagnosis, for insecurely and securely attached patients separately.

In the third study (*Chapter IV*), first we aim to examine to what extent scores on the HADS or the EF scale can provide an indication of level of psychopathology as assessed with the clinical diagnostic interview. Second, we examine whether insecurely and securely attached patients with the same level of psychopathology, show differences in self-reported distress on the HADS and EF scale.

In the fourth study (*Chapter V*), we compare insecurely and securely attached patients with respect to their process of adjustment within one year after diagnosis, by examining their self-perceived impact of cancer, level of mastery, level of positive and negative affect, emotional coping, and resolution of cancer related grief. We also examine the relationship between insecurely versus securely attached patients' process of adjustment and their self-reported psychological distress.

In the fifth study (*Chapter VI*), we examine how attachment style is related to persons' trust in, and satisfaction with, their treating physician at three and nine months after diagnosis. Furthermore, we examine whether patients' level of trust in their physician is contributing to their level of general distress.

1.4.2 Study population and design

Our sample consists of patients with a first diagnosis of breast, gastrointestinal, cervical or prostate cancer. These cancer types all have a survival percentage of over 50%, and over 2000 incident cases per year in the Netherlands.[65] A sample size of 122 as needed to be able to detect a small to medium effect (p<.01, 2-tailed) with 80% power. Assuming a drop-out rate of around 10% during data collection, we aimed at including at least 134 patients. We expected drop-out to be limited, as patients were thoroughly informed about the study requirements and were interviewed by trained professionals at the start of the study. We follow patients from three to fifteen months after diagnosis, with a total of five assessment points at a three-months interval. This time period reconciles the need to have a sufficiently long and intense time period to capture patterns of changes, responses and problems. Patients are interviewed at the first and last assessment point, and fill out questionnaires at all five assessment points.

We assess attachment style using a validated interview, the Attachment Style Interview (ASI)[27], conducted by psychologists who were thoroughly trained by one of its developers. Previous studies examining the relationship between attachment style and adaptation to cancer have used questionnaires to assess attachment style. Questionnaires are often preferred because they take less time and effort to administer and process, and they often suit their function well. However, they are considered to be less able to detect the attachment characteristics indicative of a certain attachment style.[26] Important features of the ASI are its focus on the quality of several ongoing attachment relationships with close others, as well as on one's attachment orientation towards others in general. Inquiring *several* close others makes it possible to more accurately assess one's ability to make and maintain good quality relationships. Inquiring more *general* attachment orientations provides insight into likely attachment-based

feelings and behavior towards e.g., medical staff. Finally, inquiring *ongoing* relationships is important, as these are assumed to be most influential on short- and long-term illness behavior and psychopathological symptoms. The ASI allows for assessing persons attachment style: secure, or insecure: avoidant, preoccupied, or fearful. In the present study, we distinguish between securely and insecurely attached persons, as differences are most typically found between insecurely and securely attached persons, for example with respect to the processing of attachment-relevant social information[20] or levels of psychological problems.[15]

The ASI relates to the social-personality oriented approach within adult attachment research, assessing more conscious attachment orientations. Examples of other attachment style interviews within this line of research are the Current Relationship Interview (CRI)[66], which inquires attachment to one's romantic partner and is therefore less suitable for persons without a romantic relationship[26, 67], and the Peer Attachment Interview (PAI)[25] which focuses on close friendships and past and present romantic relationships, but is primarily designed for the normative study of adolescents. Another approach within adult attachment research is the psychodynamic or developmentally oriented approach. This approach is more focused on unconscious processes, assessing a person's narrative coherence, or his or her ability to reflect on one's own or others inner world as an indicator of attachment style. An often used attachment style interview within this line of research is the Adult Attachment Interview (AAI).[68] The AAI inquires an adult's memories of attachment to his or her parents, which in turn is expected to influence the person's own parenting style. The personality and developmentally oriented approach show only little empirical overlap, and are even assumed to measure different aspects of security.[26, 69] The literature on adult attachment research presented within the present thesis, stems primarily from the social-personality approach assessing present relationships and conscious attachment orientations.

Furthermore, we conduct validated, clinical diagnostic interviews (miniSCAN)[70] to assess the presence of psychopathology. Previous studies have examined the relationship between attachment style and psychological problems by means of self-report questionnaires. Although questionnaires are able to give an indication of person's level of distress, they are less well suited to assess actual psychopathology. Therefore, we administer questionnaires (Hospital Anxiety and Depression Scale[71], EF scale of the EORTC QlQ-C30)[72] as well as interviews to identify psychological problems.

1.5 Case vignettes

Case vignettes are provided throughout this thesis to offer examples of how persons with different attachment styles may experience their illness situation. The content of the descriptions is related to the content of the distinct studies. The vignettes are based on the interviews we conducted and general knowledge from the literature[24, 35, 36], and are depersonalized for reasons of confidentiality.

Mr. S, Securely attached

Diagnosis: gastrointestinal cancer, stage II. Characteristics: confident, cooperative, dependable, easy going, stable, warm, and sympathetic. Mr. S. is 46 years old, married, and has two young children.
After hearing the diagnosis of gastrointestinal cancer, Mr. S. was clearly affected. After being silent for a few moments, and grabbing the hand of his wife, Mr. S. regained his peace. He told his physician that he felt deeply distressed by the diagnosis, but that he would like to hear more about the next steps in treating the cancer. Mr. S. was able to have a rather satisfying conversation with his physician, during which he listened and sometimes asked additional questions. After scheduling a new appointment, Mr. S. and his wife went home.

Mrs. P, preoccupiedly attached

Diagnosis: breast cancer, stage II. Characteristics: dependent, emotional, spontaneous, needy, reassurance seeking, self-revealing, and expressive. Mrs. P. is 53 years old, and living with her four teenage children since she is divorced.
When she heard the diagnosis of breast cancer, Mrs. P. started crying, and it was difficult for her physician and her ex-husband to calm her down. Mrs. P. said that she hoped that her physician was willing to see her as often as possible, and would do anything in his power to help her: she was very afraid to die, as she was a mother of four children and did not want to be separated from them. Mrs. P. stopped crying after her physician assured her that he would do his utmost best for her. However, she was too distressed to talk about her illness any further. As soon as Mrs. P. had left the consulting room, she started crying again. After scheduling a new appointment, Mrs. P. asked her ex-husband to hold her tight, as she really needed him to be close to her right now. Then they went home.

Mr. A., avoidantly attached

Diagnosis: prostate cancer, stage II. Characteristics: autonomous, independent, rational, tough, unemotional, indifferent and headstrong. Mr. A. is 68 years old, married, has no children.
Mr. A. reacted in a rather unresponsive and unaffected way when hearing that he was diagnosed with prostatic cancer, like it did not concern him. He asked his physician whether he was sure about the diagnosis, and suggested a second opinion from another oncologist. He then asked his physician to provide clear facts concerning his chance of survival and different treatment options. Mr. A. insisted to be involved in making treatment decisions. When his physician indicated that he generally encouraged patients to be involved in their own treatment, Mr. A. indicated he appreciated his physician's attitude. After scheduling a new appointment, Mr. A. went home.

Mrs. F., fearfully attached

Diagnosis: cervical cancer, stage II. Characteristics: cautious, distrustful, doubting, introverted, self-conscious, shy, and withdrawn. Mrs. F is 35 years old, and living with her two-year old daughter. She started a new relationship one year ago.

Mrs. F. started shaking when she heard she was diagnosed with cervical cancer. When the physician empathically approached her, she responded with hostility. She told her physician that she did not need his empathy and wanted him to continue providing information about her condition. At the end of the appointment, she left the consultation room rather distressed. Without scheduling a new appointment, she went home. However, a few hours later, she called the hospital to make a new appointment. She explained that she felt distressed after the consultation with her physician, and was unable to stay in the hospital any longer.

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CHAPTER II

Insecurely attached patients recently diagnosed with cancer experience more self-reported general distress and have more difficulties recovering from psychopathology

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ABSTRACT

Objective. We aim to explore the relationship between attachment style and (1) self-reported psychological distress, (2) clinically assessed psychopathology, and (3) self-reported life-time prevalence of psychopathology, among cancer patients three and 15 months after diagnosis.

Method. A heterogeneous group of 129 cancer patients received an attachment style interview (Attachment Style Interview, ASI) assessing adult attachment style at three months after diagnosis. At three and 15 months after diagnosis, they filled out a questionnaire (Hospital Anxiety and Depression Scale, HADS) measuring self-reported general distress, and received a clinical diagnostic interview (mini-SCAN) assessing psychopathology. Life-time prevalence of psychopathology was self-reported at three months after diagnosis. For analysis, we used chi-square tests and ANOVA.

Results. At three months after diagnosis, insecurely attached patients reported more general distress than securely attached patients ($p<.001$), but psychopathology prevalence rates of insecurely and securely attached patients were more comparable ($p=.094$). At fifteen months, insecurely attached patients again reported higher levels of general distress ($p=.003$), and also had psychopathology more often ($p=.002$). However, the amount of new onsets of psychopathology at 15 months was rather similar for insecurely and securely attached patients (respectively 17% and 18.2%).

Conclusion. Insecurely attached patients are vulnerable to experience heightened levels of general distress within one year after a cancer diagnosis, when compared with securely attached patients. Furthermore, insecurely attached patients may be as likely as securely attached patients to develop psychopathology. However, they may be somewhat less resilient in recovering from actual psychopathology. Knowledge of attachment style may help health care professionals to understand and predict who may be in need of support, and may offer concrete clues for more personalized communication in medical settings and for optimizing short term psychological interventions.

Keywords: adult attachment; cancer; distress; interview; psychopathology

CASE VIGNETTES - Psychological distress after cancer

Mr. S, Securely attached

Diagnosis: gastrointestinal cancer, stage II. Characteristics: confident, cooperative, dependable, easy going, stable, warm, and sympathetic. Mr. S. is 46 years old, married, and has two young children.
'Although it is likely that the cancer will be successfully treated, I sometimes worry about the consequences of my illness. I know that some consequences can last for a very long time. Sometimes I am afraid that I will not fully recover at all. It often helps to talk to my wife about my worries. She's a good listener and always cheers me up. It feels good to know there is someone beside me on whom I can rely. I also have a few good friends, who often come over for a drink or take me fishing. Most of the time, I can cope with my worries on my own. Whenever I feel it's too much to handle on my own, it is nice to know that others are there for me when I need them.'

Mrs. P, preoccupiedly attached

Diagnosis: breast cancer, stage II. Characteristics: dependent, emotional, spontaneous, needy, reassurance seeking, self-revealing, and expressive. Mrs. P. is 53 years old, and living with her four teenage children since she is divorced.
'I regularly feel distressed. I sometimes have difficulties eating and sleeping, and worry about my illness rather often. Although my physician told me my prognosis is favorable, I am afraid I will die. What will happen to my children when I am not here to take care of them? I also worry about my relationships with my acquaintances. I have the feeling that they try to avoid me, that they don't like being with me anymore because I am not as much fun as usual. I have asked my ex-husband to temporarily come and live with me and my children. I feel less anxious and depressed when he is around.'

Mr. A., avoidantly attached

Diagnosis: prostate cancer, stage II. Characteristics: autonomous, independent, rational, tough, unemotional, indifferent and headstrong. Mr. A. is 68 years old, married, has no children.
'I have to say, given the circumstances, I am doing reasonably well. Of course I feel some tension now and then, but I try to ignore this. Reading a good book, or watching a nice movie helps me not to think about my illness. I try to avoid social activities, as others always ask me how I am doing and want me to talk about my illness. I really don't like talking about my feelings, and don't appreciate others being close right now. To the contrary, I really dislike it when others make me feel dependent on them. I guess being dependent on others now and then, is what stresses me most now I am ill.'

Mrs. F., fearfully attached

Diagnosis: cervical cancer, stage II. Characteristics: cautious, distrustful, doubting, introverted, self-conscious, shy, and withdrawn. Mrs. F is 35 years old, and living with her two-year old daughter. She started a new relationship one year ago.
'I feel extremely distressed about my condition. I can't seem to get my feelings under control. Meditation used to help me, but now I have cancer it doesn't help me anymore. My boyfriend tries to comfort me as much as possible, but I find it very difficult to talk to him about my worries. I am afraid I am going to lose him if I complain too much. He always liked me because I was a strong person, and now I feel so weak... I want him to be close, but at the same time I want him to leave me alone. I feel confused and don't know what to do about it.'

2.1 Introduction

An important aim of psycho-oncological research, is to identify patients who are vulnerable to suffer from psychological difficulties when confronted with cancer. The insecure attachment style is an interpersonal characteristic which has been shown to increase vulnerability to experience higher levels of self-reported distress, as was found amongst patients with metastatic gastrointestinal or lung cancer[47, 48], end-stage cancer[49], and those who survived malignant melanoma for at least one year.[50]

Persons with an insecure attachment style are characterized by the expectation that others are less, or not willing or able to meet their need for safety and support, leading to difficulties with interpersonal closeness.[19] Such expectations typically stem from adverse early experiences with close others, modifying persons' tendency to seek proximity (attachment) to a close other to find comfort when distressed.[7, 9, 11] The resulting insecure behavioral pattern is suppression or amplification of the proximity seeking response. Persons with a secure attachment style on the other hand, consider themselves as worthy of love and care, and expect others to support them.

In the context of cancer, insecurely attached patients may feel distressed by the cancer diagnosis, but may also feel strained by tasks such as making treatment decisions or by becoming temporarily dependent on others. Insecurely attached persons in general are found to be less able to intentionally regulate their distress, and to elicit and make use of social or professional support effectively[54, 57-60], which is assumed to hamper their recovery of distress after a cancer diagnosis. Furthermore, insecurely attached persons are found to report a higher prevalence of life-time psychopathology than securely attached persons.[73, 74] It may be assumed that insecurely attached patients not only experience more general distress after a cancer diagnosis, but are also more likely to develop psychopathology in light of this illness. However, as far as we know it has not previously been investigated whether insecurely attached persons actually experience psychopathology more often than securely attached persons, within the first year after a cancer diagnosis.

In the present study, we have three aims. First, to examine the relationship between attachment style and self-reported psychological distress. Second, to examine the relationship between attachment style and clinically assessed psychopathology. Third, to examine the relationship between attachment style and self-reported lifetime history of psychological problems. These aims were explored among a heterogeneous group of cancer patients three and 15 months after diagnosis.

2.2 Methods

Procedure and design

This study is part of a larger one-year longitudinal study investigating the role of attachment style in adaptation to cancer among patients from three hospitals in the Netherlands, and has been approved by the Medical Ethical Committee. Patients were eligible if they were aged 30 to 75 years old, had a first diagnosis of breast, cervical, gastrointestinal, or prostatic cancer within the past three months, had an expected

survival of one year or more, and were able to speak and comprehend Dutch. Inclusion took place from March 2007 to December 2008. Patients' treating physician informed them about the study requirements. Interested patients received a more elaborate information letter and were informed that their answers would be treated confidentially and that they could withdraw at any time. Patients who sent an informed consent were contacted to make an appointment for the first interview. This interview was conducted by one of six psychologists three months following diagnosis, and assessed attachment style, self-reported life prevalence of psychopathology, and present psychopathology. The second interview, which was conducted by the same psychologist, took place one year later and again assessed present psychopathology. Self-reported distress was assessed by means of a questionnaire, respectively within two weeks after the first and second interview.

Measures

Attachment style. We used the Attachment Style Interview[27], a well-validated[27, 75], semi-structured, investigator-based interview. The ASI allows for assessing the quality of relationships and type of attachment style: secure, or insecure: angry/withdrawn, preoccupied, and fearful. In our study, we combined the insecure attachment styles because our aim was to investigate whether being insecure in general was a vulnerability factor for distress. We hereby followed previous studies that found differences in distress typically between securely and insecurely attached patients.[15] The psychologists administering the interviews received an extensive training by Prof. Bifulco, one of the developers of the ASI.

Self-reported general distress. The Hospital Anxiety and Depression Scale[71] is a self-report questionnaire that assesses general feelings of anxiety and depression. Response options vary per item, but are all scored on a 4-point Likert scale ranging from 0 to 3. An example item is 'Lately, I feel tense'. The sum score of the 14 items ranges from 0 to 42 with higher scores indicating more psychological distress. Cronbach's alpha was 0.92 at first assessment and 0.89 at second assessment. The mini-SCAN and HADS were correlated r=.46 (p<.000) at three months after diagnosis, and r=.47 (p=.000) at 15 months after diagnosis.

Clinically assessed psychopathology. We used a computerized version of the mini-SCAN[70], which is an abbreviated version of the Schedules for Clinical Assessment in Neuropsychiatry.[76] The mini-SCAN is a well-validated[70], semi-structured psychiatric diagnostic interview assessing DSM-IV Axis I disorders, such as mood and anxiety disorders. At the beginning of the interview, the interviewer screens domains of psychopathology. When problems are present, the computer program selects corresponding sections and questions to generate one or more final diagnoses. Diagnoses are based on a combination of the history of the patient and current psychological problems, taking severity, duration and interference with functioning of each problem into account. Data are presented in the format of a report, which gives an overview of rated

symptoms as well as resulting clinical diagnoses. Within the present study, psychologists experienced in interviewing conducted the interviews. The developer of the mini-SCAN trained the interviewers extensively, and gave them a booster session halfway during the interview period. Persons were divided in categories. They were labeled as 'clinical cases', when they were diagnosed with a DSM-IV disorder. Persons were labeled as 'subclinical cases', when they fulfilled some, but not all of the criteria for a specific DSM-IV disorder (i.e., had one or more symptoms). The remaining patients were labeled as having 'no cases'.

Self-reported lifetime history of psychopathology. Patients were asked whether they had experienced psychological problems in the past (before their cancer diagnosis), by presenting them a list with options (such as depression, anxiety, or addiction) and the possibility to name a problem that was not listed (further referred to as 'lifetime history of psychological problems'). If a patient reported on problems, the patient was asked whether he or she was diagnosed with a psychiatric disorder, and if so, which diagnosis was given (further referred to as 'lifetime prevalence of psychopathology').

Statistical analysis

First, we examined general patient characteristics. Second, we examined the relationship between attachment style and self-reported psychological distress with Repeated Measures ANOVA. Third, we examined the relationship between attachment style and prevalence of clinically assessed psychopathology with chi-square tests. In addition, we explored the amount of new onsets of psychopathology (disorders or symptoms of a disorder) at 15 months after diagnosis, i.e., those patients classified as 'no case' at 3 months, and as '(sub)clinical case' at 15 months after diagnosis. Fourth, we examined the relationship between attachment style and self-reported lifetime history of psychopathology with chi-square tests (note that of 5 securely attached patients, reports of history were missing; chi-square tests were therefore based on 83 instead of 88 securely attached patients). We considered differences with a two-sided p-value of 0.05 to be significant.

2.3 Results

General sample characteristics

Of the 553 patients who were approached, 165 patients (30%) agreed to participate and provided informed consent. However, eight of these refused the interviews on second thoughts, and were therefore excluded from further analysis. The remaining 157 participants completed the interview three months after diagnosis. Twenty-one participants dropped out before the fifteen months follow-up, and a further seven participants declined participation in the second interview. In total, 129 participants completed the interviews at three and fifteen months after diagnosis. Unfortunately, medical ethical regulations prohibit enquiring about reasons for non-response.

Patients who declined participation did not differ from participants with respect to age (t(499)=-1.39, p=.166) and cancer type (χ^2(4)=7.78, p=.100), but were more often male (χ^2(1),=5.270, p=.022).

Participants were on average 58.5 years old (SD 9.4) and most of them were female (N=92; 71.3%). The majority of the participants were diagnosed with breast cancer (N=77, 59.6%) or prostate cancer (N=33, 25.6%), and most participants were involved in a relationship (N=102, 79%), with an average of 30.21 (SD 11.91) years. Participants received their first interview on average at 2.7 months (43.47 days) after diagnosis. Forty-one patients (32%) were insecurely attached, and 88 patients (68%) were securely attached. Three months after diagnosis, 24 patients were clinical cases (N=10 depression, N=11 adjustment disorder, N=3 another disorder) and 29 patients were subclinical cases. Fifteen months after diagnosis, 18 patients were clinical cases (N=7 depression, N=8 adjustment disorder, N=3 another disorder), and 30 patients were subclinical cases (see Table 1).

Table 1 Sample characteristics

	N	%[1]
Gender *Female/male*	92/37	71.3/28.7%
Age *Mean (SD)*	58.53 (9.4)	
Relationship	102 (2 missing)	79%
Educational level (1 missing)		
Lower level vocational school	28	21.7%
Secondary education/advanced level vocational school	59	45.7%
Higher or post-secondary/University education	41	31.7%
Cancer type		
Prostate cancer	33	25.6%
Breast cancer	77	59.7%
Intestinal cancer	9	6.9%
Cervical cancer	10	7.8%

[1] Percentages of total sample

Relationship between attachment style and present self-reported psychological distress

Levels of self-reported distress are shown in Table 2. We found a significant group effect (F=21.91, p<.001) and time effect (F=16.017, p<.001). At three months after diagnosis, insecurely attached patients reported significantly more current distress than securely attached patients (t=-3.748, df=50.031, p<.001). Levels of current self-reported distress decreased over time for securely (t=2.34, df=85, p=.021) as well as insecurely attached patients (t=2.71, df=39, p=.01). However, at fifteen months after diagnosis, insecurely attached patients still reported more distress than securely attached patients (t=-3.143, df=53.633, p=.002).

Relationship between attachment style and clinically assessed psychopathology

Prevalence rates are shown in Table 2. At three months after diagnosis, we did not find a significant difference in prevalence of psychopathology between insecurely attached patients and securely attached patients ($\chi^2(1)=4.729$, df=2, p=.094). One year later, we did find a significant difference in prevalence rate between insecurely and securely attached patients ($\chi^2(1)=12.025$, df=2, p=.002).

At fifteen months after diagnosis, insecurely attached patients showed the same prevalence rate as at three months after diagnosis, i.e., 51.2%. Twelve of the insecurely attached patients (29.3%) were indicated as clinical cases (4 had depression, 6 had adjustment disorder, and 2 had another disorder). Nine of the insecurely attached patients were subclinical cases (22%). For securely attached patients on the other hand, psychopathology prevalence rate slightly decreased from 37.4% to 30.7%. Six of the securely attached patients (6.8%) were indicated as clinical cases (3 had depression, 2 had adjustment disorder, and 1 had another disorder). Twenty-one of the securely attached patients were indicated as subclinical cases (23.8%).

When further exploring our data, we found that the amount of new onsets of psychopathology from three to 15 months was rather similar for insecurely and securely attached patients. Seven insecurely attached patients (17% of insecure group) and 16 securely attached patients (18.8% of secure group) reported no problems at three months after diagnosis, but were indicated as cases or (sub)clinical cases at 15 months after diagnosis.

Relationship between attachment style and self-reported lifetime history of psychopathology

Results are shown in Table 2. Insecurely and securely attached patients reported a similar lifetime history of psychological problems: a total of 21 (51.2%) of insecurely attached patients, and 40 (48.2%) of securely attached patients ($\chi^2(2)=0.114$, df=2, p=.944). Of those patients reporting psychological problems, insecurely and securely attached patients reported a similar lifetime history of actual psychopathology: a total of 6 (14.6%) of insecurely attached patients, and 12 (14.5%) of securely attached patients.

Table 2 Relationship between attachment style, distress, and psychopathology at three and 15 months after diagnosis

	Attachment style	
	Insecure attachment style[1] (N=41)	**Secure attachment style[2] (N=88)**
Lifetime history of psychological problems (N, %)	21 (51.2%)	40 (48.2%)
Lifetime history of psychopathology (N, %)	6 (14.6%)	12 (14.5%)
Self-reported distress (HADS) at three months (M, sd)	10.17 (7.85)	4.64 (4.78) *
Self-reported distress (HADS) at 15 months (M, sd)	7.12 (6.93)	3.44 (4.10) *
Clinically assessed psychopathology (miniSCAN) at three months		
Clinical case (N, %)	12 (29.3%)	12 (13.6%)
Subclinical case (N, %)	9 (22.7%)	20 (22.7%)
No case (N, %)	20 (48.8%)	56 (63.6%)
Clinically assessed psychopathology (miniSCAN) at 15 months		
Clinical case (N, %)	12 (29.3%)	6* (6.8%)
Subclinical case (N, %)	9 (22.7%)	21 (23.8%)
No case (N, %)	20 (48.8%)	61 (69.3%)

[1] Percentage of insecurely attached patients, [2] Percentage of securely attached patients *difference from insecurely attached patients significant at p<.01

2.4 Discussion

Insecurely attached patients had more difficulties psychologically adjusting to a cancer diagnosis than securely attached patients. Recently after diagnosis, they reported more psychological distress, and they one year later they again reported more distress than securely attached patients. The prevalence of psychopathology among insecurely and securely attached patients was rather similar. However, insecurely attached patients were somewhat less resilient in recovering from different levels of psychopathology. Insecurely and securely attached patients reported a similar lifetime history of psychological problems and disorders.

Although overall, insecurely attached patients' level of general distress decreased, the prevalence of insecurely attached patients with psychopathology was the same at three and 15 months after diagnosis. Securely attached patients' level of general distress also decreased, and moreover, the prevalence rate of securely attached patients with psychopathology was lower at 15 months than at three months. Thus, insecurely attached patients with psychopathology at three months seem to be less able to recover from more severe psychological problems than insecurely attached patients. Interestingly, the amount of *new onsets* of psychopathology found at 15 months after diagnosis, was rather similar for insecurely and securely attached patients. Thus, although insecurely attached patients with psychopathology may be less resilient in regaining well-being than securely attached patients, they do not seem to be more vul-

nerable than securely attached patients with respect to the actual development of psychopathology.

Contrary to previous reports that insecurely attached persons more often report a life-time history of psychopathology[74], we found a similar lifetime history of psychological problems and/or disorders among insecurely and securely attached patients. Self-reported life-time history was measured in retrospect, and we therefore do not know whether these numbers reflect true prevalence rates. However, our finding may indicate that within our sample, the cancer diagnosis was indeed the stressor which has led to insecurely attached patients' higher level of psychological difficulties after the diagnosis.

The present study has some clear strengths. It is one of the first studies that analyzed the relationship between cancer patients' attachment style and psychopathology by means of well-established interviews, conducted by trained psychologists. The Attachment Style Interview[27] inquires patients about contemporary relationships with several close others and attitude towards others in general, which may provide insight in likely attachment-based feelings and behavior towards e.g., health care professionals. Moreover, contemporary attachment orientations are assumed to influence short- and long-term illness behavior and psychopathological symptoms. The interview format is likely to reduce response bias, and increase attachment activation.[26] In addition, psychopathology is assessed with a clinical diagnostic interview, which can be considered to be among the best available methods to identify the presence of disorders.[4] Furthermore, our use of a longitudinal design enabled us to explore the relationship between attachment style and psychological difficulties at multiple time points.

Some limitations should be taken into account. The present study has a relatively low response rate. When approaching patients, we made explicit that participation would take much of their time and effort, which may have lowered patients' willingness to participate. Furthermore, patients with higher levels of psychological distress or psychopathology may have declined participation relatively more often. However, we did not intend to examine the prevalence of distress or psychopathology of patients diagnosed with cancer in general, but whether patients' attachment style is related to the occurrence of psychological difficulties in the context of cancer. The distribution of attachment style and psychological difficulties in our sample was sufficiently large to meet this goal.

We have examined differences between insecurely and securely attached patients, as largest differences in distress are typically found between the secure and insecure attachment style.[15] However, post-hoc exploration of our data suggests differences between the distinct insecure attachment styles. In line with previous findings amongst persons under stressful circumstances[15, 27, 77-80], avoidantly attached patients tend to report lowest levels of distress and psychopathology (showing more similarity to levels reported by securely attached patients), and fearfully attached patients tend to report highest levels of distress and psychopathology. Unfortunately, the sample size of our insecure attachment group did not allow us to perform subgroup analyses. Notwithstanding the likely differences between the insecure attachment styles, we do not expect that the main message of our study, i.e., that insecurely attached patients

are vulnerable to experiencing more distress and adjustment problems after a cancer diagnosis, would have differed when we had taken the different insecure styles into account. Yet, it would have provided a more detailed picture of insecurely attached patients' level of distress and process of adjustment to cancer.

The present results have interesting implications for clinical practice. Becoming aware of the existence of attachment differences between patients, may help health care professionals understanding patients' responses to the cancer diagnosis, and their way of communicating within the professional relationship.[34-37, 81, 82] By being sensitive to their patients' needs for interpersonal safety and care, and building a professional relationship in which the patient feels safe and secure, health care professionals can improve their communication with patients and foster health outcomes.[34, 82-85] When adapting a sensitive attitude towards patients' needs, physicians may notice patients having severe or enduring psychological problems requiring professional attention, especially when they are treating their patients over a longer period of time. In these cases, physicians are advised to discuss the psychological well-being of their patient within the medical team. It should also be discussed to what extent there are problems within the relationships between the patient and the medical team, as these may be negatively related to the psychological problems of the patient. This information can be taken into account by the psychologist of the medical team in treating the patient's psychological problems.

Psychologists may use knowledge of attachment theory to help patients coping with their illness and interpersonal difficulties that are negatively impacting their distress level. They may for example aim at learning patients recognizing signals of their insecure attachment style (e.g., withdrawal, difficulty asking for help) and help patients strengthening bonds to close others[86], which may lead to more effective use of their social network and better regulation of their emotions. Maunder and Hunter[35] and Thompson and Ciechanowski[81], among others, have provided an overview of common patterns of adult attachment relevant to medical care, which may be helpful in applying knowledge of attachment style in clinical practice.

In sum, knowledge of attachment styles may not only help predict who may be in need of support, but may also offer concrete clues for more personalized communication in medical settings and for optimizing psychological treatment.[15, 36, 37, 81, 83] This may in turn foster patients managing the long-term stressors accompanying the process of coping with cancer.

3

CHAPTER III

Insecurely attached patients experience poorer quality of life and higher cancer centrality within fifteen months following a cancer diagnosis

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ABSTRACT

Objective. First, to examine the relationship between attachment style and health related quality of life, and attachment style and cancer centrality, within 15 months after a cancer diagnosis. Second, to examine the relationship between quality of life and cancer centrality at fifteen months after diagnosis, for insecurely and securely attached patients separately.

Methods. 121 recently diagnosed patients were extensively interviewed to assess attachment style (ASI). Patients reported on quality of life (EORTC QLQ-C30) three, nine and 15 months after diagnosis, and on cancer centrality (CES) six and 15 months after diagnosis. We used Repeated Measures ANOVA, t-tests and correlations.

Results. Insecurely attached patients reported poorer quality of life than securely attached patients at all three assessment points ($p<.05$), and higher cancer centrality at 15 months ($p=.012$), but not at six months after diagnosis. For securely as well as insecurely attached patients, most EORTC QlQ-C30 functioning domains and overall quality of life were significantly related to cancer centrality at 15 months after diagnosis (correlations between .23 and .66).

Conclusion. Insecurely attached patients perceive their quality of life as worse, and the cancer as more central to their life, than securely attached patients, up to 15 months after a cancer diagnosis. Furthermore, patients who perceive the cancer as more central, experience their quality of life as worse. Our findings extend the limited research on this subject thus far, and suggest that future research examining patients' quality of life and cancer centrality may benefit from taking the perspective of attachment theory.

Key words: attachment style, cancer centrality, functioning, oncology, quality of life, well being

CASE VIGNETTES - Health related quality of life after cancer

Mr. S, Securely attached

Diagnosis: gastrointestinal cancer, stage II. Characteristics: confident, cooperative, dependable, easy going, stable, warm, and sympathetic. Mr. S. is 46 years old, married, and has two young children.
'I feel pretty tired all the time and I have lost a lot of weight. I cannot go to work right now, and do not have the energy to play with my two children, or do heavy household duties. Fortunately, my wife and I have a few friends who help us out now and then. Everyone assures me that I don't have to worry about things, that I have to put all my energy in getting well. It's really nice to have such friends. It makes me feel less impaired than I would have felt without their support.'

Mrs. P, preoccupiedly attached

Diagnosis: breast cancer, stage II. Characteristics: dependent, emotional, spontaneous, needy, reassurance seeking, self-revealing, and expressive. Mrs. P. is 53 years old, and living with her four teenage children since she is divorced.
'My life is impaired in many ways. I am awfully tired all the time, and I cannot use my arm properly. I cannot concentrate when reading a book or watching the television. I feel very distressed about my illness. Fortunately, my ex-husband has temporarily moved in with my children and me, to take care of practical things and bring me to my hospital appointments. I feel really dependent on him. Furthermore, I cannot go out to social events as often as before I became ill. Because I want to keep close to my acquaintances, I often call them to talk about my illness, or invite them over. I hope they will not start to avoide me now I am ill.'

Mr. A., avoidantly attached

Diagnosis: prostate cancer, stage II. Characteristics: autonomous, independent, rational, tough, unemotional, indifferent and headstrong. Mr. A. is 68 years old, married, has no children.
'My quality of life is poorer than it used to be, mainly because of side effects such as bowel and urinary problems. I am not able to make a long walk. And I have difficulties sleeping. I have to visit the rest room about five times at night. But I usually keep these sorts of things private. I do not like people thinking of me as a disabled person. My wife is the only one to whom I get close sometimes, and I'm letting her help me now and then. I've always liked being able to take care of myself, and I am not going to let this situation change my independency.'

Mrs. F., fearfully attached

Diagnosis: cervical cancer, stage II. Characteristics: cautious, distrustful, doubting, introverted, self-conscious, shy, and withdrawn. Mrs. F is 35 years old, and living with her two-year old daughter. She started a new relationship one year ago.
'I am very tired and my body reacts strongly to my hormonal treatment. My fatigue in particular, makes me dependent on my boyfriend to take care of my daughter and do household duties for me. I actually don't have many acquaintances to help me. I sometimes would like to have more people around, but find it very difficult to trust others. I always have this fear that they will hurt me, or let me down when I need them. I am unable to be the strong person I want to be. It doesn't help to go meditating, or to watch television or read a book, because I can't seem to concentrate. But I am not going to ask for help dealing with these limitations, I really fear to become dependent on others.'

3.1 Introduction

Across the early phases of survivorship, persons who are diagnosed with cancer may experience several changes and difficulties within the process of adjusting to their illness, thereby impacting their quality of life. Patients' self-reported quality of life primarily reflects subjective well-being[87], i.e., how individuals themselves perceive and react to their health status. Psychological factors may determine to a great extent how patients perceive their quality of life and the centrality of the cancer[87], and understanding these factors may be critical for health care professionals working with cancer patients.

Within the present study, we aim to explore which persons are most vulnerable to experience diminished quality of life after diagnosis, using the framework of attachment theory. According to attachment theory[7, 9, 11, 28], childhood experiences with early caregivers influence how adult persons think, behave and feel when confronted with a stressor such as cancer. Persons with a secure attachment style feel worthy of love and care, and expect that others will provide safety and support when needed. Persons with an insecure attachment style do not trust others' willingness or capability to provide safety and support. Therefore, some insecurely attached persons aim to rely on themselves, whereas other insecurely attached persons show dependent and clingy behavior to ensure the availability of other people. In the medical context, attachment style repeatedly has been shown to be related to the process of adjustment to illness[36, 54], as insecurely attached persons generally have more difficulties regulating their emotions and are less effective in creating and making use of a support network.[49, 53, 54, 59, 88] Concerning cancer in particular, insecurely attached persons have been found to be more psychologically distressed after cancer than securely attached patients.[47-50] Although not previously examined, having an insecure attachment style may also exert a negative influence on a person's quality of life after a cancer diagnosis. For example, insecurely attached persons may be more sensitive to develop negative feelings about the consequences a cancer diagnosis and treatment induce, such dependency on others, which is threatening for those who find it difficult to rely on other people.[37] Previous studies among e.g., the elderly[89] and persons with lupus[90], alopecia[91] or fibromyalgia[92], have indeed found insecurely attached persons to report a lower quality of life.

Recent research has suggested that patients' quality of life may be related to the extent to which patients identify with their cancer experience[93, 94], in the present article further referred to as 'cancer centrality': the extent to which the cancer diagnosis acts as a reference point for personal identity, and for the attribution of meaning to other experiences in the patients' life.[95] Helgeson[94] found that the centrality of cancer to one's self-concept was negatively related to mental quality of life in breast cancer patients ten years after diagnosis. In addition, Park et al.[93] found that the centrality of cancer to one's self-concept was negatively related to mental quality of life in a heterogeneous sample of cancer patients one to three years after diagnosis. From the perspective of attachment theory, insecurely attached persons in particular may not only be vulnerable to experience poorer quality of life, but may also be prone to experience higher levels of cancer centrality. Insecurely attached persons' generally higher levels of intrusion of, and rumination about distressing thoughts[57, 63, 96, 97], may increase the likeliness that especially these persons feel the cancer is taking a central place in their

life[93, 98], whereas securely attached persons may be able to integrate their illness as one of many life experiences.

For the present study, we formulated two aims. First, to examine the relationship between attachment style and health related quality of life, and attachment style and cancer centrality, within 15 months after a cancer diagnosis. Second, to examine the relationship between quality of life and cancer centrality at 15 months after diagnosis, for insecurely and securely attached patients separately.

3.2 Methods

Participants and procedure

The present study is part of a longitudinal study on the influence of attachment style on adjustment to cancer and has been approved by the Medical Ethical Committee. The study included patients from the University Medical Center and Martini Hospital in Groningen and the Academic Medical Center in Amsterdam, the Netherlands, from March 2007 to December 2008. We invited patients aged 30 to 75 years who had received a first diagnosis of breast cancer, gastrointestinal cancer, cervical cancer or prostate cancer within the past three months, had an expected survival of at least one year and were able to speak and understand Dutch. Eligible patients (N=553) were informed by their physician that they were requested to give an extensive interview within three months and a shorter one after one year, and to fill out several questionnaires within that year. Interested patients received an information letter and were informed that their answers would be treated confidentially and that they could withdraw at any time.

Instruments

Attachment style was assessed three months after diagnosis. We used the Attachment Style Interview[27], a well-validated[27, 75], semi-structured, investigator-based interview assessing adult attachment styles based on the ability to make and maintain supportive relationships, together with attitudes on several areas: Mistrust, Constraints on closeness, Fear of rejection, Self-reliance, Desire for company, Fear of separation and Anger. An example of a question for Mistrust is: 'Do you easily feel you can trust someone?' The total ASI scale allows for assessing the quality of relationships and type of attachment style: secure, or insecure: angry/withdrawn, preoccupied, or fearful. We combined the insecure attachment styles because we aimed to examine whether being insecurely attached in general is a vulnerability factor for poorer quality of life: in general, studies typically find largest differences between the insecure and secure attachment styles.[15] The six interviewers, of whom the first author was one, were all experienced psychologists. They received an extensive training in conducting the interview by Prof. Bifulco, one of the developers of the ASI.

Quality of life was measured three, nine and 15 months after diagnosis. We used the functional scales (physical, role, emotional, social and cognitive) and overall quality of life scale (global health status) of the EORTC QLQ-C30[72], a self-report questionnaire

assessing quality of life of individuals diagnosed with cancer. Items of the functional scales (15 in total) refer to the past week and can be scored on a four point scale, namely (1) 'not at all', (2) 'a little', (3) 'quite a bit' and (4) 'very much'. The overall quality of life scale consists of two items, namely 'How would you rate your overall health during the past week?' and 'How would you rate your overall quality of life during the past week?' and can be scored on a 7-point scale. The sum of the scores on each scale are transformed into a score between 0 and 100. A lower score indicates worse functioning or quality of life.

Cancer centrality was measured six and 15 months after diagnosis. We used the 7-item version of the Centrality of Event Scale[98], a self-report questionnaire measuring the extent to which an event acts as a reference point for personal identity and for the attribution of meaning to other experiences in an individual's life. We adapted the items to refer to the cancer experience. Examples of questions are 'I feel that the cancer has become a central part of who I am', 'I feel like the cancer has become central to my life', 'The cancer determines the way I understand myself and the world around me'. The items were scored on a Likert scale ranging from 1 (totally disagree) to 5 (totally agree). We calculated mean scores, with a possible range from 1 (low cancer centrality) to 5 (high cancer centrality). Cronbach's alpha of these items was .91.

Patient characteristics and disease-specific variables. Gender, age, marital status, educational level and cancer type were recorded at the first assessment. Presence of metastases was recorded at the first and last assessment. Whether patients were receiving treatment was recorded at all assessments (see Table 1).

Statistical procedure

To examine the relationship between attachment style and quality of life, and attachment style and cancer centrality, we used ANOVA repeated measures and t-tests. To examine the relationship between quality of life and cancer centrality at 15 months after diagnosis, for insecurely and securely attached patients separately, we used Pearson's correlation.

3.3 Results

Sample description

Of the 553 eligible patients who were approached, 165 patients (30%) agreed to participate and provided informed consent. Eight of these patients refused the interviews on second thoughts, and were therefore excluded from further analysis. In all, the attachment style interview as well as the questionnaires were completed by 157 patients. Twenty-one patients dropped-out before the fifteen-months follow-up. A total of 121 patients completed all questionnaires. Participants were mainly female (71.9%) and on average 58.43 years (SD 9.65), and the majority was involved in a relationship (80%). Sample characteristics are further described in Table 1. Patients who declined participa-

tion did not differ from participants with respect to age (t(499)=-1.39, p=.166) and cancer type (χ^2(4)=7.78, p=.10), but were more often male (χ^2(1),=5.270, p=.022). Unfortunately, medical ethical regulations prohibit enquiring about reasons for non-response.

Table 1 Patient characteristics and disease-specific variables

	N	%
Gender		
Female/male	87/34	71.9/28.1
Age (mean, sd)	58.43 (9.65)	
Marital status		
Relationship/No relationship	97/24	80/20
Educational level		
Lower level vocational school	24	20
Secondary education/advanced level vocational school	57	47
Higher or post-secondary/University education	39	32
Cancer type		
Prostate cancer	32	26
Breast cancer	73	60
Intestinal cancer	7	6
Cervical cancer	9	7
Metastasis present		
Three months after diagnosis	18	15
Fifteen months after diagnosis	13	11
In treatment		
Three months after diagnosis	80	66
Nine months after diagnosis	41	34
Fifteen months after diagnosis	24	20

Prevalence of attachment styles

Thirty-eight (31.4%) patients were insecurely attached and 83 patients (68.6%) were securely attached. There were no differences between the attachment styles with respect to gender (χ^2=1.33, df=1, p=.249), age (t=-.686, df=127, p=.494), cancer type (χ^2=7.07, df=3, p=.069), and treatment status (χ^2=0.19, df=1, p=.663).

The relationship between attachment style and quality of life

Insecurely attached patients reported significantly poorer functioning on all scales three months after diagnosis (p<.01), poorer cognitive functioning at nine months after diagnosis (p<.01), and poorer physical and cognitive functioning 15 months after diagnosis (p<.05). Furthermore, insecurely attached patients reported poorer overall quality of life than securely attached patients at three, as well as nine and 15 months after diagnosis (see Table 2). For insecurely attached patients, physical, role and emotional functioning scores increased over time (all p<.05). For securely attached patients, scores remained the same over time.

Table 2 EORTC-QLQ C-30 scores of insecurely and securely attached patients at three, nine and 15 months after diagnosis

		Three months after diagnosis	Nine months after diagnosis	Fifteen months after diagnosis			
Scale					**ANOVA repeated measures**		
		Mean (sd)	**Mean (sd)**	**Mean (sd)**	**Main Effect Time**	**Main Effect Attachment**	**Interaction Time*Attachment**
Physical	Insecure	76.95 (19.11)	83.83 (13.60)	85.17 (15.72)	8.98 (p=.000)	13.33 (p=.000)	7.59 (p=.001)
	Secure	90.69 (12.72)	89.96 (12.57)	92.51 (13.27)	T1<T2*, T2=T3, T1<T3**	T1**, T3*	T1≠T2**, T2=T3, T1=T3
Role	Insecure	65.00 (26.90)	79.17 (24.09)	83.33 (21.96)	16.50(p=.000)	9.10 (p=.003)	4.81 (p=.009)
	Secure	82.50 (20.86)	83.13 (23.64)	90.54 (18.81)	T1<T2*, T2<T3**, T1<T3**	T1**	T1≠T2*, T2=T3, T1=T3
Emotional	Insecure	74.38 (24.85)	80.00 (19.77)	84.24 (15.39)	7.16 (p=.000)	7.18 (p=.008)	3.17 (p=.044)
	Secure	86.93 (14.79)	86.32 (18.93)	89.20 (16.69)	T1=T2, T2<T3**, T1<T3**	T1**	T1≠T2*, T2=T3, T1=T3
Cognitive	Insecure	75.00 (25.03)	77.92 (19.39)	80.00 (19.32)	.28 (p=.756)	23.81 (p=.000)	2.35 (p=.098)
	Secure	92.38 (12.09)	89.30 (16.73)	89.71 (16.78)		T1**, T2**, T3**	
Social	Insecure	79.17 (19.88)	84.61 (23.06)	90.00 (15.92)	6.94 (p=.001)	6.43 (p=.012)	1.14 (p=.323)
	Secure	89.30 (17.14)	91.15 (17.30)	93.83 (17.17)	T1=T2, T2<T3*, T1<T3**	T1**	
Overall QoL	Insecure	67.54 (16.76)	74.17 (17.68)	75.83 (19.13)	6.69 (p=.001)	14.83 (p=.000)	2.06 (p=.130)
	Secure	81.37 (16.31)	82.40 (14.25)	84.05 (16.94)	T1=T2, T2=T3, T1<T3**	T1**, T2*, T3*	

* significant at p<.05, ** at p<.01; T1: three months, T2: nine months, T3: fifteen months after diagnosis; =: no difference, ≠: difference, <: lower than

Table 3 Cancer centrality of insecurely and securely attached patients, and correlations with quality of life at 15 months after diagnosis

	Six months after diagnosis		Fifteen months after diagnosis				
Scale					**ANOVA repeated measures**		
					Main Effect Time	**Main Effect Attachment**	**Interaction Effect**
	Insecure	**Secure**	**Insecure**	**Secure**			
Cancer centrality (mean, sd)	2.77 (1.19)	2.44 (1.01)	2.66 (1.09)	2.19 (1.02)	3.79 (p=.054)	4.79 (p=.031)	.637 (p=.427)
			Correlation with centrality	**Correlation with centrality**			
Quality of life							
Physical			N.S.	-.23 (p=.04)			
Role			-.42 (p=.000)	N.S.			
Emotional			-.66 (p=.000)	-.43 (p=.000)			
Cognitive			N.S.	N.S.			
Social			-.41 (p=.01)	-.38 (p=.000)			
Overall QoL			-.48 (p=.002)	-.28 (p=.01)			

N.S.=non-significant

The relationship between attachment style and cancer centrality

Insecurely and securely attached patients reported similar levels of cancer centrality at six months after diagnosis ($t(115)=-1.569$, $p=.119$). However, insecurely attached patients reported higher cancer centrality than securely attached patients at 15 months after diagnosis ($t(118)=-2.291$, $p=.024$) (see Table 3). For insecurely attached patients, levels of cancer centrality at six and 15 months after diagnosis were comparable. For securely attached patients, level of cancer centrality decreased over time ($t(78)=2.626$, $p=.01$).

The relationship between quality of life and cancer centrality for insecurely versus securely attached patients

For securely as well as insecurely attached patients, most EORTC QlQ-C30 functioning domains and overall quality of life were significantly related to cancer centrality at 15 months after diagnosis (see Table 3). For insecurely attached patients, quality of life was more strongly correlated to cancer centrality (correlations ranging from -.41 to -.66) than for securely attached patients (correlations ranging from -.28 to -.43).

3.4 Discussion

Three months after diagnosis, insecurely attached patients perceived their health related quality of life as much worse than securely attached patients: they reported clinically relevant lower scores on all domains of daily functioning and overall quality of life.[99] At nine and 15 months after diagnosis, insecurely attached patients' quality of life was more comparable to that of securely attached patients. However, one year after the initial assessment, insecurely attached patients again reported poorer physical (e.g., problems with walking) and cognitive functioning (i.e., problems with memory and concentration), and poorer overall quality of life than securely attached patients. Thus, insecurely attached patients perceive more problems with several aspects of their daily functioning during the course of one year after a cancer diagnosis, and perceive their overall quality of life as less favorably than securely attached patients.

Furthermore, fifteen months after diagnosis, insecurely attached patients perceived the cancer as more central to their personal identity and other experiences in life than securely attached patients. Six months after diagnosis, insecurely and securely attached patients reported more similar levels of cancer centrality. However, whereas the levels of cancer centrality of insecurely attached patients at six and 15 months after diagnosis were the same, securely attached patients' level of cancer centrality decreased. These results may suggest that particularly on the long- term, insecurely attached patients are more preoccupied with their illness, i.e., have more difficulties adjusting to their cancer diagnosis than securely attached patients.[93, 94, 98] However, insecurely as well as securely attached patients reported relatively low levels of cancer centrality[98], suggesting that most patients were, at least to some extent, able to integrate their illness experience into their concept of self and life.

The majority of the insecurely as well as securely attached patients who reported higher levels of cancer centrality, reported poorer daily functioning and overall quality of life at 15 months after diagnosis. Emotional functioning appeared to be most strongly related to cancer centrality. This finding is in line with Park[93] and Helgeson[94], who found significant correlations between centrality and mental quality of life in particular. It may be that patients who are more preoccupied by their illness, which is likely to be experienced as negative, feel worse about their quality of life. It may also be that patients who perceive their quality of life as worse, keep feeling more impacted by their cancer experience. Interestingly, for insecurely attached patients, quality of life and cancer centrality are more strongly related (correlations ranging from -.41 to -.66) than for securely attached patients (correlations ranging from -.28 to -.43). Future research should explore into more detail how quality of life and cancer centrality are related, and why interrelations are more strongly among insecurely than securely attached patients.

That insecurely attached patients in general do not report poorer emotional, role and social functioning than securely attached patients at 15 months after diagnosis, may be related to the presence of distinct insecure attachment styles within our group of insecurely attached patients. Especially emotional and social functioning, can be regarded as functioning domains that particularly concern feelings and relationships. Previous studies have shown that especially persons with an avoidant insecure attachments style suppress negative feelings and emotions[35, 62], although this unconscious strategy may not be successful under distressing circumstances such as having cancer. It may be that the avoidantly attached patients within our study were less able to suppress their emotions within the first months after the cancer diagnosis, but regained this ability after one year. This may have resulted in average emotional or social functioning scores of the group of insecurely attached patients, that resemble those of securely attached patients. Unfortunately, our sample size did not allow us to perform subgroup analyses. We are aware that this approach limits understanding of the nuanced differences among the distinct insecure attachment styles. Future research taking into account the distinct insecure attachment styles, may provide a more detailed picture of insecurely attached patients' quality of life as well as cancer centrality.

A clear strength of our study is our use of an interview, the Attachment Style Interview (ASI)[27], to assess attachment style. Interviews conducted by well-trained interviewers may be assumed to accurately detect characteristics of a certain attachment style more than a self-report instrument: a conversation may trigger attachment processes more than does a questionnaire, and moreover, interviews enable the probing of the answers of patients. Furthermore, the ASI focuses on views that persons currently hold about themselves in relation to others, which is relevant to psychosomatic researchers interested in the impact of patients' current condition on future health or adjustment to illness.[26] In addition, the ASI inquires attachment orientations concerning others in general, which may provide insight into attachment-related feelings and behavior towards, e.g., medical staff.[100] Other strengths are our longitudinal design and heterogeneous sample including both genders, which increases the generalizability of our results.

In order to prevent loss to follow-up, we informed eligible patients about the time and effort participation would take, which may unfortunately have lowered our response rate. Furthermore, patients who perceive their quality of life as low may have refused to participate. This may have resulted in a selection bias of patients who expected not to be burdened too much by participation, and reported a relatively high quality of life. However, our retention rate was good (87%), and our final sample size and distribution of outcomes were large enough to meet our aim of examining differences between insecurely and securely attached patients.

Our results extend previous findings, by showing that persons with an insecure attachment style are vulnerable to experience short and long-term diminished quality of life. In addition, insecurely attached persons seem to have more difficulties integrating their illness experience successfully into their life. As far as we know, we are among the first to have prospectively examined the relationship between attachment style, quality of life and cancer centrality. Given the limited empirical research on this subject thus far, more research is needed to confirm these findings.

Increased knowledge on how attachment style may influence patients' quality of life and level of cancer centrality, may help predicting which patients need professional support in adjusting to their illness, and how these patients can be helped responding to the challenges they are faced with in a more constructive way.

4

CHAPTER IV

Identification of psychological problems in patients recently diagnosed with cancer: relationship with attachment style

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ABSTRACT

Aims. First, we aim to examine to what extent scores on the HADS or the EF scale can provide an indication of level of psychopathology as assessed with the clinical diagnostic interview. Second, we aim to examine whether insecurely and securely attached patients with the same level of psychopathology, show differences in self-reported distress on the HADS and EF scale.

Method. For our first aim, a heterogeneous group of 142 cancer patients received a clinical diagnostic interview (miniSCAN) and self-report questionnaires (HADS, EF scale). Based on the diagnostic interview, patients were classified as 'clinical case' (having a disorder), 'subclinical case' (symptoms below the threshold of a disorder), or 'no case' (no symptoms). Performance of HADS and EF scale in identifying psychopathology was analyzed with ANOVA, Pearson's correlation, and ROC analyses. For our second aim, the same patients were interviewed to assess attachment style (ASI). Patients were then classified based on their attachment style and level of psychopathology. Their HADS and EF scale scores were examined with t-tests and effect sizes. All measures were conducted within three months after diagnosis.

Results. Our first step showed comparable and mostly fair performance of the questionnaires: the HADS identified 76% of patients correctly as clinical case, and 76% correctly as clinical or subclinical case. The EF scale identified 80% correctly as clinical case, and 66% correctly as clinical or subclinical case. Our second step showed that regardless of their classification on the diagnostic interview, insecurely attached patients consistently reported more HADS-distress and worse Emotional Functioning than securely attached patients ($p<.05$), with medium and large effect sizes.

Conclusion. Although self-report questionnaires may to a large extent be able to identify patients with different levels of psychopathology, results of a clinical diagnostic interview may not always reflect differences in self-reported psychological distress between patients. Patients with an insecure attachment style may respond differently to interviews and questionnaires than securely attached patients.

Key words: clinical diagnostic interview; HADS, EORTC QLQ-C30 EF scale; distress; attachment style

CASE VIGNETTES - The response to a clinical diagnostic interview and self-report questionnaires assessing distress

Mr. S, Securely attached

Diagnosis: gastrointestinal cancer, stage II. Characteristics: confident, cooperative, dependable, easy going, stable, warm, and sympathetic. Mr. S. is 46 years old, married, and has two young children.
Upon the screening part of the clinical diagnostic interview, Mr. S. indicated that he did not feel extremely anxious, depressed or manic, and was not addicted to anything. He told the psychologist spontaneously that he had his occasional worries, but that these were not severe. When the psychologist inquired him about his tendency to ruminate on his illness, he indicated that his worries did not interfere with his daily functioning. Therefore, the miniSCAN indicated no symptoms of a disorder. When filling out the self-report questionnaire assessing distress, Mr. S. reported that he worried now and then, but was able to enjoy things as much as before the cancer diagnosis, and did not feel tense or restless. He did not report on other psychological problems. This resulted in a somewhat heightened score on the self-report questionnaire.

Mrs. P, preoccupiedly attached

Diagnosis: breast cancer, stage II. Characteristics: dependent, emotional, spontaneous, needy, reassurance seeking, self-revealing, and expressive. Mrs. P. is 53 years old, and living with her four teenage children since she is divorced.
Upon the screening part of the clinical diagnostic interview, Mrs. P. indicated that she regularly felt distressed. She told the psychologist that she struggled with problems such as rumination on her illness and relationships, and difficulties eating and sleeping because of her worries. She experienced these problems as severe and interfering with daily life. However, she did not meet all criteria of a DSM-IV disorder. Therefore, the miniSCAN indicated that she was having symptoms, but below the threshold of a disorder. When filling out the self-report questionnaire assessing distress, Mrs. P. reported 'very often' on almost all items asking for the presence of feelings such as tension or anxiety. Although she did not experience all of these feelings as severe or disabling, she did experience these feelings very frequently. This resulted in a strongly heightened score on the self-report questionnaire.

Mr. A., avoidantly attached

Diagnosis: prostate cancer, stage II. Characteristics: autonomous, independent, rational, tough, unemotional, indifferent and headstrong. Mr. A. is 68 years old, married, has no children.
The clinical diagnostic interview of Mr. A. only took ten minutes. In response to the screening questions, Mr. A. indicated that he did not feel anxious, depressed, or manic, and was not addicted to anything. The psychologist therefore skipped these sections. When the psychologist asked him about his tendency to ruminate on his illness, Mr. A. told the psychologist that he sometimes felt tense, and worried about his illness, but was in control of these feelings: he did not experience the symptoms as severe or interfering with his daily life. Therefore, the miniSCAN indicated no symptoms of a disorder. However, when filling out the self-report questionnaire assessing distress, Mr. A. reported to feel tense regularly, to be less cheerful than before he became ill, and to feel less interested in things he usually was interested in. This resulted in a heightened score on the self-report questionnaire.

Mrs. F., fearfully attached

Diagnosis: cervical cancer, stage II. Characteristics: cautious, distrustful, doubting, introverted, self-conscious, shy, and withdrawn. Mrs. F is 35 years old, and living with her two-year old daughter. She started a new relationship one year ago.
The clinical diagnostic interview of Mrs. F. took quite some time. Upon the screening part of the interview, Mrs. F. indicated told the psychologist that she sometimes felt anxious and depressed. However, when the psychologist inquired about these feelings, Mrs. F. indicated that she had everything under control, and that her distress did not disable her in any way. Therefore, the miniSCAN indicated no symptoms of a disorder. However, when filling out the self-report questionnaire assessing distress, Mrs. F. yet reported on many psychological problems, such as feeling tense, worried, and restless, and the inability to enjoy a book or a television program. This resulted in a strongly heightened score on the self-report questionnaire.

4.1 Introduction

Many persons experience negative feelings or emotions after they have been diagnosed with cancer.[6, 101] However, some patients have more difficulties coping with their illness and subsequent emotions than others. It has previously been shown that persons with an insecure attachment style as described by attachment theory[10], are more vulnerable to experience self-reported psychological distress after cancer than persons with a secure attachment style.[47-50] Insecurely attached persons are characterized by the belief that others are not willing or available to provide support when needed, resulting from adverse early experiences with close others. Based on these experiences, they (unconsciously) suppress or amplify their proximity seeking response., i.e., show an insecure attachment pattern. Securely attached persons on the one hand, feel worthy of love and care, and have the expectation that others will provide support when needed. Insecurely attached persons are consistently found to be less able to intentionally regulate their negative emotions, and to have more difficulties effectively eliciting and making use of social support than securely attached persons.[54, 57, 59, 60]

In line with these earlier findings, we found that insecurely attached persons show higher levels of self-reported distress on the Hospital Anxiety and Depression Scale[71] after a cancer diagnosis, than securely attached persons.[102] In that same study, we found that insecurely attached patients are less resilient in recovering from psychopathology as assessed with a clinical diagnostic interview. These higher levels of distress were also reflected in insecurely attached patients' scores on the Emotional Functioning Scale of the EORTC quality of life questionnaire (QlQ-C30)[72], which assesses psychoemotional functioning in patients diagnosed with cancer.[103]

Both the HADS and EF scale are often used in oncology research. Although many studies have examined the ability of the HADS to identify psychopathology as assessed with a clinical diagnostic interview, only few studies have examined performance of the EF scale in identifying psychopathology. The few studies that have compared the performance of the EF scale relative to the HADS using a clinical diagnostic interview[104-107], have found that both questionnaires show rather comparable and fair to good performances. However, further research is needed to increase insight into the effectiveness of available psycho-diagnostic methods.

To the best of our knowledge, no study to date has examined the extent to which insecurely and securely attached patients with the same classification on a clinical diagnostic interview, show differences in self-reported distress. Exploration of differences between the attachment styles, may provide more insight into the relationship between patients' level of psychopathology, and the psychological distress they experience.

The present study has two aims. First, we aim to examine to what extent scores on the HADS or the EF scale can provide an indication of level of psychopathology as assessed with the clinical diagnostic interview. Second, we aim to examine whether insecurely and securely attached patients with the same level of psychopathology, show differences in self-reported distress on the HADS and EF scale.

4.2 Methods

Participants and procedure

This study is part of a one-year longitudinal multi-center study on the relationship between attachment style and adaptation to cancer, which was approved by the Medical Ethical Committee of the University Medical Center in Groningen. For the current study, we have used the data we derived from the participants at the first measurement (T1), which was administered within three months after diagnosis. Cooperating hospitals were the University Medical Center Groningen, Martini Hospital in Groningen, and the Academic Medical Center in Amsterdam, the Netherlands. Eligibility criteria were an age between 30 and 75 years, a first diagnosis of breast cancer, gastrointestinal cancer, cervical cancer or prostate cancer within the past three months, an expected survival of one year or more, and the ability to speak and understand Dutch. A total of 553 patients was eligible and invited to participate by their treating physician. Patients could provide informed consent after being informed about the study requirements, confidentiality, and the possibility to withdraw. Inclusion took place from March 2007 to December 2008.

Interviews

Psychopathology. We assessed the presence of psychopathology by means of a computerized version of the mini-SCAN[70], which is an abbreviated version of the Schedules for Clinical Assessment in Neuropsychiatry.[76] The mini-SCAN is a well-validated[70], semi-structured psychiatric diagnostic interview assessing DSM-IV Axis I disorders, such as mood and anxiety disorders. At the beginning of the interview, the interviewer screens domains of psychopathology. When problems are present, the computer program selects corresponding sections and questions to generate one or more final diagnoses. Diagnoses are based on a combination of the history of the patient and current symptoms, taking severity, duration and interference with functioning of each symptom into account. Data are presented in the format of a report, which gives an overview of rated symptoms as well as resulting clinical diagnoses. Within the present study, psychologists experienced in interviewing conducted the interviews. The developer of the mini-SCAN trained the interviewers extensively, and gave them a booster session halfway during the interview period. Persons were divided in categories. They were labeled as 'clinical cases', when they were diagnosed with a DSM-IV disorder. Persons were labeled as 'subclinical cases', when they fulfilled some, but not all of the criteria for a specific DSM-IV disorder. The remaining patients were labeled as having 'no cases'.

Attachment style. Attachment style was assessed by means of the Attachment Style Interview.[27] The ASI is a well-validated[27, 75], semi-structured, investigator-based interview assessing a person's adult attachment style. The total ASI scale allows for assessing the quality of relationships and type of attachment style (secure, preoccupied, avoidant/dismissing, fearful). In our study, we combined the insecure attachment styles because our aim was to investigate whether being insecure in general was a vulnerability factor for

distress. We hereby followed previous studies finding differences in distress typically between securely and insecurely attached individuals.[15] The psychologists administering the interviews received an extensive training by one of the developers of the ASI.

Questionnaires

Hospital Anxiety and Depression Scale. The Hospital Anxiety and Depression Scale (HADS)[71] is a self-report questionnaire that assesses anxiety and depression and consists of 14 items, 7 items for each subscale. Response options vary per item, but are all scored on a 4-point Likert scale ranging from 0 to 3. An example item is 'Lately, I feel tense'. The total score (HADS-T) is the sum of the 14 items. A higher score indicates more psychological distress. For the current study, only HADS-T is used because we did not intent to differentiate between anxiety and depression. Moreover, several studies showed that in non-psychiatric patients, the total score was superior to the subscale scores (for a review, see Vodermaier et al., 2009).[108]

Emotional Functioning scale. The Emotional Functioning scale (EF scale) is part of the EORTC QLQ-C30[72], a self-report questionnaire assessing quality of life of cancer patients. The scale consists of the items 'Did you feel tense?', 'Did you worry?', 'Did you feel irritable?' and 'Did you feel depressed?' and is scored on the four point scale (1) 'not at all', (2) 'a little', (3) 'quite a bit' and (4) 'very much'. The sum score is linearly transformed into a score ranging from 0 to 100. A lower score indicates more psychological distress.

Statistical analysis

For our first aim, we first explored the relationship between the mini-SCAN and the HADS and EF scale using independent sample t-tests and Pearson correlations, thereby comparing (a) clinical cases with subclinical and no cases, and (b) clinical and subclinical cases with no cases. Furthermore, we compared the ability of the HADS and EF scale to identify psychopathology used receiving operating characteristic (ROC) analysis. This analysis gives an indication of the accuracy of predictions, usually by presenting the area under the curve (AUC). In this study, the AUC indicates the ability of the questionnaire to correctly classify those with and without psychopathology. An area of 1 represents a perfect classification ability; .80-.90 good; .70-.80; fair; .60-.70 poor, and an area of .50-.60 as no classification ability. There are several ways of calculating the AUC, depending on the aim of the analysis. We examined the best trade-off between sensitivity and specificity ((sensitivity + specificity)/2, where the largest difference indicates the best trade-off)[105]. This trade-off gives a statistically optimal balance between the ability of the questionnaire to identify patients with psychopathology on the one hand (sensitivity), and with no psychopathology on the other hand (specificity). We additionally calculated the positive predictive value (PPV) and the negative predictive value (NPV). The PPV indicates the proportion of patients with psychopathology who are correctly identified as such, while the NPV indicates the proportion of patients without psychopathology who are correctly identified as such.

For our second aim, patients were classified based on their attachment style and level of psychopathology as assessed with the miniSCAN. Between group differences in HADS and EF scale scores were examined with independent sample t-tests. Effect sizes were examined by calculating Cohen's D.[109] Effect sizes of .19 or lower indicate negligible effects; between .20 and .49 small effects; between .50 and .79 medium effects; .80 or higher large effects. We considered a two-sided alpha of <.05 as significant.

It should be noted that prevalence of attachment style and psychopathology has also been reported in a previous article by the authors.[102] We have repeated examining prevalence rates, as the sample of the present article is somewhat different from the previous article due to among other things drop out of patients.

4.3 Results

Sample description

Of the 553 approached patients, 165 patients (30%) agreed to participate and provided informed consent. Eights of these patients refused the interview on second thoughts, because they considered participation to be too burdensome. The remaining 157 patients completed both the interview and the questionnaires. A total of 142 patients filled out enough items on the questionnaires to be included in the analysis of the current study. Participants were mainly female (70.4%) and on average 58.85 years old (SD 9.5). Other sample characteristics are presented in Table 1. Patients who declined participation were mainly concerned about the heavy burden participation would bring along, or were already participating in another study. These patients did not differ from participants with respect to age ($t(499)=-1.39$, $p=.166$) and cancer type ($\chi^2(4)=7.78$, $p=.10$), but were more often male ($\chi^2(1),=5.270$, $p=.022$).

Table 1 Sample characteristics[1]

	N	%
Gender (*N, % female / N, % male)*	100/42	70/30%
Age (mean, sd)	58.8	9.5
Relationship status (N, %)		
Partner	111	73.0%
No partner	30	27.0%
Unknown	1	
Educational level (N, %)		
Lower level vocational school	45	32.0%
Secondary education/advanced level vocational school	65	45.5%
Higher or post-secondary/University education	32	22.5%
Cancer type (N, %)		
Prostate cancer	37	26.0%
Breast cancer	83	58.5%
Intestinal cancer	11	7.7%
Cervical cancer	11	7.7%

[1] Characteristics were assessed during the first interview

Prevalence of psychopathology and attachment style

Twenty-five persons (17%) were identified as clinical cases, 33 persons (23%) as subclinical cases, and 84 (59%) as no cases. Of the 92 (65%) securely attached persons, 12 persons were identified as clinical case, 20 persons as subclinical case, and 60 as no case. Of the 50 (35%) insecurely attached persons, 13 persons were identified as clinical case, 13 were identified as subclinical case, and 24 were identified as no case (see Table 2).

The ability of the HADS and EF scale to identify the presence or absence of psychopathology in patients in general

The mini-SCAN correlated r=.47 (p<.000) with the HADS, and r=-.41 (p<.000) with the EF scale. The HADS and EF scale correlated r=-.79 (p<.000). Clinical cases reported significantly more HADS-distress (p<.000) and worse emotional functioning (p=.001) than subclinical or no cases. Furthermore, clinical and subclinical cases reported significantly more HADS-distress (p<.000) and worse emotional functioning (p<.000) than no cases (see Table 2).

Results of ROC-analyses showed that the HADS was more accurate in (a) identifying clinical cases (AUC=.79) than the EF scale (AUC=.75), and (b) identifying clinical or subclinical cases (AUC=.76) than the EF scale (AUC=.69), taken sensitivity as well as specificity into account (see Table 3). The HADS identified 19 out of 25 patients (76%) correctly as clinical cases, and 44 out of 58 patients (76%) correctly as clinical or subclinical cases (fair classification ability). The EF scale identified 20 out of 25 patients (80%) correctly as clinical cases (fair classification ability), and 38 out of 58 patients (66%) correctly as clinical or subclinical cases (poor classification ability).

Differences in self-reported distress between insecurely and securely attached patients, based on their classification with the mini-SCAN

As Table 3 shows, regardless of their classification based on the clinical diagnostic interview, insecurely attached patients consistently report more HADS-distress and worse emotional functioning than securely attached patients. First, with respect to cases: insecurely attached patients report worse emotional functioning than securely attached patients (p<.05, large effect size). Second, with respect to subclinical cases: insecurely attached patients report more HADS-distress and worse emotional functioning than securely attached patients (p<.05, large effect sizes). Finally, with respect to no cases: insecurely attached patients report more HADS-distress than securely attached patients (p<.05, small to medium effect size).

Table 2 Relationship between HADS, EF scale and miniSCAN

	Difference between groups	Cut off score (raw score)	SENS	SPEC	PPV	NPV	AUC (s.d.)	P-value 2-tailed	95% CI
HADS-T									
Clinical case vs. subclinical and no case	t=-4.26, df=30.34, p<.000	6.5 (>6)	.76	.70	.72	.74	.79 (.048)	<.000	0.695 - 0.882
Clinical and subclinical case vs. no case	t=-5.26, df=80.67, p<.000	4.5 (>4)	.76	.67	.69	.69	.76 (.040)	<.000	0.682 - 0.839
Emotional Functioning									
Clinical case vs. subclinical and no case	t=3.84, df=30.64, p=.001	87.50 (<15)	.80	.58	.65	.74	.75 (.055)	<.000	0.642 - 0.859
Clinical and subclinical case vs. no case	t=4.23, df=82.58, p<.000	87.50 (<15)	.66	.63	.64	.64	.69 (.040)	<.000	0.595 - 0.776

SENS=sensitivity SPEC=specificity PPV=positive predictive value NPV=negative predictive value AUC=area under the curve CI=confidence interval

Table 3 Relationship between attachment style, HADS and EF scale, and miniSCAN

		Overall sample (n=142, 100%)	**Secure attachment style (N=92, 64.8%)**	**Insecure attachment style (N=50, 35.2%)**		
					Effect size[1]	*Difference between groups*[1]
Clinical case (N=25, 17%)	***N***	**84**	**12**	**13**		
	HADS-T (mean, sd)	12.12 (7.62)	9.25 (5.79)	14.77 (8.35)	0.77	t=-1.905, df=23, p=.069
	EF scale (mean, sd)	69.33 (21.21)	78.47 (16.84)	60.90 (21.89)	0.90	t=2.236, df=23, p=.035
Subclinical case (N=33, 23%)	***N***	**33**	**20**	**13**		
	HADS-T (mean, sd)	8.39 (7.89)	5.60 (4.86)	12.96 (9.78)	0.95	t=-2.428, df=15.91, p=.027
	EF scale (mean, sd)	80.05 (22.72)	87.92 (14.43)	67.95 (28.02)	0.90	t=2.373, df=16.19, p =.03
No case (N=84, 59%)	***N***	**25**	**60**	**24**		
	HADS-T (mean, sd)	3.99 (4.34)	3.17 (3.73)	6.04 (5.12)	0.64	t=-2.49, df=33.15, p=.018
	EF scale (mean, sd)	89.29 (12.84)	90.97 (11.09)	85.07 (15.92)	0.43	t= 1.93, df=82, p=.057

[1] difference between insecurely and securely attached patients

4.4 Discussion

Our first aim was to compare the ability of the HADS and EF scale to identify the presence or absence of psychopathology as assessed with a clinical diagnostic interview, in a heterogeneous sample of cancer patients at three months after diagnosis. For this purpose, we distinguished between patients with a DSM-IV disorder, with symptoms below the threshold of a disorder, and no symptoms.

In line with previous reports, the HADS and EF scale were highly correlated[104, 110] and showed comparable performances in identifying patients with a disorder, or with either a disorder or symptoms.[105, 107, 111] The HADS performed slightly better than the EF scale, in distinguishing patients with a disorder or symptoms from patients without symptoms. The EF scale performed slightly better than the HADS, in distinguishing patients with a disorder from patients with symptoms or no symptoms.

Our second aim was to examine whether insecurely and securely attached patients with the same level of psychopathology, show differences in self-reported distress on the HADS and EF scale. We found that insecurely attached patients consistently report more distress on the HADS and EF scale than securely attached patients, regardless of their level of psychopathology, with medium to large effect sizes.[109] For example, of those patients who were classified as having symptoms, insecurely attached patients yet reported significantly more HADS-distress and worse emotional functioning than securely attached patients within that same category. Thus, it seems as if insecurely and securely attached patients respond differently to clinical diagnostic interviews and self-report questionnaires assessing distress.

Speculating on explanations for this finding, the interpersonal format of a clinical diagnostic interview may activate attachment patterns more than self-report questionnaires[26], thereby influencing outcomes. Furthermore, it is likely that classifying persons as having a disorder, symptoms, or no symptoms, limits the identification of more subtle differences in distress. Anyhow, it appears that insecurely attached patients feel more generally distressed by their illness, even though this difference may not always be reflected in the outcome of a clinical diagnostic interview.

For interpretation of our findings, it is important to keep in mind several issues. We thoroughly informed eligible patients about the time and effort participation would take in order to retain patients in the study during follow-up. This has likely resulted in a considerable amount of persons expecting to be burdened too much by the requirements of the study, and therefore declining participation. Fortunately, our final sample was large enough to find a variety in psychopathology and self-reported distress, high enough to meet our aims of comparing performance of the questionnaires and attachment styles. However, the small sample size of the group of patients with a disorder (N=25), may have resulted in unstable and worse performance of the HADS and EF scale in identifying psychopathology, than was reported by previous studies.[105, 107]

A clear strength of the study is our use of interviews to assess attachment style and psychopathological symptoms. The Attachment Style Interview (ASI)[27] that is conducted by well-trained interviewers, may be assumed to accurately detect characteristics of a certain attachment style more than a self-report instrument: a conversation triggers attachment processes more than does a questionnaire, and moreover, interviews ena-

ble the probing of the answers of patients.[26] In addition, psychopathological symptoms were measured with a clinical diagnostic interview, which can be considered to be among the best available methods to identify psychopathology.[4]

In sum, this article shows convergence as well as differences between results of a clinical diagnostic interview and self-report questionnaires measuring distress. Therefore, in our opinion it would be too simple to appoint the diagnostic interview as the gold standard when measuring distress. An absence of differences in psychopathology as assessed with a clinical interview, may not preclude an absence of differences in general distress. On the other hand, a high score on the HADS or a low score on the EF scale may indeed be indicative of a psychiatric disorder. Further consultations are needed to establish actual psychopathology or symptoms that require professional support. In addition, we showed that insecurely attached patients consistently report more distress on the HADS and EF scale than securely attached patients, regardless of their level of psychopathology. This may suggest that responses on clinical diagnostic interviews as well as self-report questionnaires, may to a certain extent be influenced by patient characteristics such as attachment style. Future research should examine the relationship between responses on distinct instruments assessing psychological problems after cancer, and patient characteristics into more detail.

5

CHAPTER V

Attachment style and adaptation to cancer

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ABSTRACT

Objective. We aim to compare the process of adjustment to cancer of insecurely versus securely attached persons, at six and twelve months after diagnosis. Furthermore, we examine the relationship between patients' process of adjustment and their self-reported psychological distress.

Methods. Cancer patients' (N=121) attachment style was assessed at three months after diagnosis with a validated interview (ASI). Patients' process of adjustment was assessed at six and 12 months after diagnosis with the Impact of Event Scale (IES), the Self Mastery Scale (SMS), the Positive and Negative Affect Schedule (PANAS), the Emotional Approach Coping Scale (EACS), and the Loss Processing Scale (LPSD). Level of self-reported distress was assessed at nine and 15 months after diagnosis with the Hospital Anxiety and Depression Scale (HADS). For our analysis, we used t-tests and correlations.

Results. Insecurely attached patients reported more adjustment problems: they had higher levels of intrusion and avoidance (IES) and negative affect (PANAS), and lower levels of mastery (SMS) (all $p<.05$). Furthermore, they showed less emotional expression (EACS)($p<.05$). Interestingly, insecurely and securely attached patients reported similar levels of acceptation of their illness and moving on (resolution of cancer related grief)(LPSD). Most measures of adjustment were related to higher levels of distress (correlations ranging from .27 to .63, all $p<.05$).

Conclusions. Within one year after a cancer diagnosis, insecurely attached patients report increasingly more adjustment problems and more distress than securely attached patients. Patients reporting more adjustment problems generally experienced more distress. Despite these findings, both insecurely and securely attached patients perceive themselves as fairly accepting their illness and being able to move on.

Key words: attachment style, cancer, grief resolution, distress, adjustment

CASE VIGNETTES - Acceptance and moving on with life

Mr. S, Securely attached

Diagnosis: gastrointestinal cancer, stage II. Characteristics: confident, cooperative, dependable, easy going, stable, warm, and sympathetic. Mr. S. is 46 years old, married, and has two young children.
'I'm taking life day by day. I am not yet as healthy as I used to be. For example, I have less energy than before I became ill. I used to be afraid that I would never fully recover, and often worried about that. By now, I worry less often, and try to look at positive consequences of my illness. For example, my wife and I grew closer because of my illness. Furthermore, my life does not revolve around cancer as much as it used to. My illness may have changed me in certain respects, but I really feel that I am able to let go of my experience and move on with my life.'

Mrs. P, preoccupiedly attached

Diagnosis: breast cancer, stage II. Characteristics: dependent, emotional, spontaneous, needy, reassurance seeking, self-revealing, and expressive. Mrs. P. is 53 years old, and living with her four teenage children since she is divorced.
'I think you could say that I am learning to let go of my illness experience. When comparing my current level of distress with how bad I felt right after I was diagnosed, I feel I am showing much improvement. I guess that's mainly because of my therapist, with whom I am now talking every week. I often think about my illness, and how it has affected my relationships. My therapist helps me coping with my worries and anxieties. Furthermore, I have asked my ex-husband to move in permanently. I want to move on with my life, and I believe I am better able to move on when he is around again all the time.'

Mr. A., avoidantly attached

Diagnosis: prostate cancer, stage II. Characteristics: autonomous, independent, rational, tough, unemotional, indifferent and headstrong. Mr. A. is 68 years old, married, has no children.
'I have to accept the fact that I have had cancer, but I do find it difficult. It sometimes makes me feel a bit helpless and angry. I've always tried to live a healthy life, thinking of my weight and doing sports. Now it appears, that did not help me keeping control of my body. I'm now in some sort of a self-monitoring program, so I can be alert of bodily changes indicative of problems. Furthermore, I try not to think of my illness. My wife likes talking about it, but I don't. I'm doing fine now, everything is under control, and I want to focus on positive things, move on with my life.'

Mrs. F., fearfully attached

Diagnosis: cervical cancer, stage II. Characteristics: cautious, distrustful, doubting, introverted, self-conscious, shy, and withdrawn. Mrs. F is 35 years old, and living with her two-year old daughter. She started a new relationship one year ago.

'I am doing my utter best to move on with my life. I try not to think of my illness, but the harder I try, the more difficult it becomes not to think of it. The cancer has changed the way I look at myself and the world around me. I feel more vulnerable, and worry about whether my illness has changed my relationships. And I still feel distressed quite often. But I am really doing much better now than, say, six months ago. I'm now living with my boyfriend, and I like that, although I often worry that he will leave me. He helps me talk about myself, and that's difficult, but I do try to be more open so he will stay with me. We are now focusing on a new life together.'

5.1 Introduction

Previous studies have consistently shown that insecurely attached persons experience more psychological distress after a cancer diagnosis. This was found amongst patients with several types and stages of cancer: metastatic gastrointestinal cancer, lung cancer[47, 48], malignant melanoma[50], patients diagnosed with breast, prostate, intestinal or cervical cancer[102], and patients with end-stage cancer.[49] It is assumed that the development of an insecure attachment style is a consequence of adverse early experiences with close others, leading persons to believe that others are not willing or available to provide support when needed.[10] Based on these experiences, insecurely attached persons (unconsciously) suppress or amplify their support seeking response, which makes them less able to make effectively use of social support.[57]

In the context of other stressful events, insecurely attached persons have been found to experience more painful and sometimes ruminating thoughts and feelings[63, 112] and less mastery[113, 114] than securely attached persons. In general, insecurely attached persons report more difficulties understanding and acknowledging their emotions, as they are expecting this to cause emotional pain.[64, 115-117] They are also less comfortable expressing their feelings, and fear negative or unresponsive reactions from others.[64, 117-119] Therefore insecurely attached patients with cancer may have more difficulties in coping with illness-related emotions than securely attached persons. Concerning the relationship between persons' attachment style and their processing of severe events, it was found that insecurely attached persons are less effective in processing the loss of a close other.[120, 121] In the same scope, insecurely attached patients may be less able to accept changes and move on with life after a cancer diagnosis. In the present article, the ability to accept changes and move on will be further referred to as 'resolution of cancer-related grief'. Aforementioned adjustment factors may be related to differences in level of distress of insecurely versus securely attached patients.

For the present study, we have formulated two research questions: (1) do insecurely attached patients differ from securely attached patients with respect to their process of adjustment at six and 12 months after diagnosis?, and (2) how is patients' process of adjustment related to patients' self-reported distress?

5.2 Methods

Participants and procedure

The present study is part of a longitudinal study on the relationship between attachment style and adjustment to cancer. The study has been approved by the Medical Ethical Committee, and included patients from the University Medical Center Groningen, Martini Hospital in Groningen and the Academic Medical Center in Amsterdam, the Netherlands, from March 2007 to December 2008. Patients were eligible to participate if they were aged 30 to 75 years, were diagnosed (for the first time) with breast cancer, gastrointestinal cancer, cervical cancer or prostate cancer within the past three months, had an expected survival of at least one year, and were able to speak and understand Dutch. Their physician informed them on the study. Interested

patients received an information letter concerning participation requirements, confidentiality of their answers, and the possibility to withdraw at any time.

Measures

Attachment style was assessed within three months after diagnosis. Process of adjustment was assessed at six and 12 months after diagnosis. General distress was assessed at nine and 15 months after diagnosis.

Attachment style

We used the Attachment Style Interview[27], a well-validated[27, 75], semi-structured, investigator-based interview assessing adult attachment styles. The ASI refers to the quality of contemporary attachment relationships with several close others, which are assumed to be most influential on short- and long-term illness behavior and psychopathological symptoms. The ASI also assesses more general attachment orientations, providing insight into likely attachment-based feelings and behavior towards e.g., health care professionals. The ASI distinguishes between the secure, preoccupied, avoidant/dismissing (angry or withdrawn), and fearful attachment style. We combined the insecure attachment styles because we aimed to investigate whether being insecure in general was a vulnerability factor for experiencing general distress. The average interviewing time was 90 minutes. The interviewers received an extensive training by Prof. Bifulco, one of the developers of the ASI.

Adjustment scales

Impact of cancer. We used the Impact of Event scale (IES)[122-124], a self-report questionnaire assessing the impact of a traumatic experience by means of two subscales: frequency of intrusion (7 items) and frequency of avoidance (8 items). We adapted the items, such that they were referring to the cancer experience. Respondents were asked to rate each item on a four point scale: 'not at all', 'rare', 'sometimes' or 'often'. An example of the Intrusion subscale is 'I thought about it when I didn't mean to', an example of the Avoidance subscale is 'I stayed away from reminders of the cancer'. Total scores for Intrusion range from 0-35, and for Avoidance from 0-40. Higher scores indicate more intrusion or avoidance. In our sample, Cronbach's alpha of the Intrusion subscale was .85 and .89, at six respectively 12 months after diagnosis, and of the Avoidance subscale .69 and .79.

Mastery. We used the Self Mastery Scale (SMS)[125], a self-report questionnaire measuring the extent to which an individual perceives a sense of personal control or mastery over life. The SMS consists of 7 items, to be scored on a 5-point scale ranging from 1 (totally agree) to 5 (totally disagree). An example is 'I have little control over the things that happen to me'. Total scores range from 7-35. After rescaling the positively framed

items, higher scores indicate more self-mastery. In our sample, Cronbach's alpha of the items was .82 and .74 at six respectively 12 months after diagnosis.

Positive and Negative Affect. We used the Positive and Negative Affect Schedule (PANAS)[126], a self-report questionnaire with two 10-item mood scales, one scale measuring positive affect (PA) and the other negative affect (NA). Each item is rated on a 5-point scale ranging from 1 (very slightly or not at all) to 5 (extremely) to indicate the extent to which the respondent has felt this way in the past week. Examples of the PA-scale are 'enthusiastic' and 'strong'. Examples of the NA-scale are 'ashamed' and 'nervous'. Scores for each subscale range from 10-50, higher scores indicating higher levels of positive or negative mood. In our sample, Cronbach's alpha of the PA-subscale was .93 and .91, and of the NA subscale .87 and .87, at six respectively 12 months after diagnosis.

Emotional coping. To measure emotional coping, we used the Emotional Approach Coping Scale (EACS).[127] This self-report questionnaire has two subscales, each composed of four items, to be answered on a four-point scale ranging from 1 (never) to 4 (always). The Emotional Processing subscale (EP) measures active attempts to acknowledge and understand emotions. An example is 'I take time to figure out what I'm really feeling'. The Emotional Expression subscale (EE) measures outward emotional expression. An example is 'I allow myself to express my emotions'. Total scores for each of the subscales ranges from 4-16; higher scores indicate better emotional coping. In our sample Cronbach's alpha of the EP subscale was .83 and . 82, and of the EE subscale.89 and .92, at six respectively 12 months after diagnosis.

Resolution of cancer-related grief. We used two subscales of the Loss Processing in Serious Disease (LPSD)[128], a questionnaire used in an earlier study on aspects of post-traumatic growth in cancer patients. The LPSD assesses the loss processing of persons confronted with a serious illness. One subscale concerns 'Acceptance' (3 items). An example is 'I feel at peace with the fact that I have (had) cancer'. Another subscale is 'Letting go and moving on' (4 items). An example is 'I feel that I am handling my disease'. The items were answered on a 5 point scale, ranging from 1 (totally disagree) to 5 (totally agree). Total scores range from 3-15 for Acceptance, and from 4-20 for Letting go and moving on. Higher scores indicate better resolution of cancer-related grief. In our sample, Cronbach's alpha of the Acceptance subscale was .44 and .62, and of the Letting go and moving on subscale .69 and .71, at six respectively 12 months after diagnosis.

General distress

We used the Hospital Anxiety and Depression Scale[71], a self-report questionnaire existing of 14 items assessing general feelings of anxiety and depression, the total score indicating 'distress' (total 14 items). Response options vary per item, but are all scored on a 4-point Likert scale ranging from 0 to 3. An example is 'Lately, I feel tense'. The

sum score ranges from 0 to 42 with higher scores indicating more general distress. In our sample, Cronbach's alpha was .92 and .90, at nine respectively 15 months after diagnosis.

Statistical procedure

We examined differences in mean scores of securely versus insecurely attached persons, using independent sample T-tests; for within-group changes over time we used paired-sample T-tests. We used Pearson's correlation to examine the relationship between the adjustment scales and the distress scale (HADS). We considered an alpha of .05 (two-sided) to be significant.

5.3 Results

Sample description

A total of 553 patients was informed by their physician, and 165 of these patients were interested in participating in the study (30%); 157 patients agreed to complete the Attachment Style Interview as well as the questionnaires. Twenty-one patients dropped-out before the twelve-months follow-up. Of the remaining 136 patients, 121 patients completed all questionnaires. Patients who declined participation did not differ from participants with respect to age ($t(499)=-1.39$, $p=.166$) and cancer type ($\chi^2(4)=7.78$, $p=.10$), but they were more often male ($\chi^2(1),=5.270$, $p=.022$). Medical ethical rules prohibit enquiry of reasons for non-response. A description of the sample is provided in Table 1.

A total of 38 persons (31.4%) appeared to be insecurely attached and a total of 83 persons (68.6%) was securely attached. There were no differences between these two attachment groups with respect to gender ($\chi^2=.534$, $df=1$, $p=.520$), age ($t=-.439$, $df=58.81$, $p=.663$) and cancer type ($\chi^2=7.319$, $df=3$, $p=.062$).

Process of adjustment of insecurely versus securely attached patients

In general, at six as well as 12 months after cancer diagnosis, insecurely attached patients reported more adjustment problems than securely attached patients. (see Table 2).

Impact of cancer. At six months after diagnosis, insecurely attached persons reported significantly more intrusion than securely attached patients ($p=.042$); at 12 months, these levels were similar. At six months after diagnosis, insecurely and securely attached patients reported similar levels of avoidance. At 12 months, there was a *decrease* in level of avoidance of securely attached patients ($p<.05$), whereas insecurely attached patients' level of avoidance had not changed. As a result, insecurely attached patients reported significantly more avoidance than securely attached patients at 12 months ($p=0.007$).

Table 1 Sample characteristics

	N	%
Gender		
Female/male	87/34	71.9%/28.1%
Age		
Female/male (mean, SD)	56 (9.6) /64.65 (6.5)	
Relationship status		
Partner	97	81.2%
No partner	24	19.8%
Educational level		
Lower level vocational school	24	19.8%
Secondary education/advanced level vocational school	57	47.1%
Higher or post-secondary/University education	39	32.2%
Missing	1	
Cancer type		
Prostate cancer	32	26%
Breast cancer	37	30%
Intestinal cancer	7	6%
Cervical cancer	9	7%
Comorbidity[1]		
Yes/no	82/37	67.8%/30.6%
Missing	2	
Attachment style		
Insecure attachment style	38	31.4%
Secure attachment style	83	68.6%

[1] Presence of comorbidity was assessed by asking patients whether they had other diseases than cancer by presenting them with a list with possible options (such as diabetes, kidney failure, high blood pressure) and the possibility to name a disease that was not on the list

Mastery. Insecurely attached patients reported less mastery than securely attached patients, at six (p=.002) as well as at 12 months (p<.001) after diagnosis.

Positive and negative affect. Insecurely attached patients reported significantly *lower* levels of positive affect than securely attached patients at six (p<.000), as well as at 12 months after diagnosis (p=.001). Insecurely attached patients reported significantly *higher* levels of negative affect than securely attached patients at six (p=.018), as well as at 12 months after diagnosis (p=.035).

Emotional coping. Insecurely and securely attached patients reported similar levels of emotional processing at six and 12 months after diagnosis, and these levels were decreased for both groups at 12 months (p<.05). Insecurely attached patients reported lower levels of emotional expression than securely attached patients at six (p=. 047), as well as at 12 months (p<.001) after diagnosis; moreover, insecurely attached patients' expression of emotion was *decreased* at 12 months (p<.05).

Resolution of cancer-related grief. Insecurely and securely attached patients reported similar levels of cancer-related grief resolution. The reported level of acceptation was relatively high, and the level of moving on was moderate. Scores did not change over time.

Table 2 Adjustment scales and distress of insecurely versus securely attached patients

	Mean Outcomes					
	6 months after diagnosis			12 months after diagnosis		
	Mean (sd)		*Difference between groups*	*Mean (sd)*		*Difference between groups*
	Secure	**Insecure**		**Secure**	**Insecure**	
Adjustment scales (range)						
Impact of Event Scale						
Intrusion (0-35)	7.48 (6.59)	11.44 (10.48)	t=-2.09, df=47.90, p=.042	7.50 (7.83)	9.89 (9.29)	N.S.
Avoidance (0-40)	6.36 (5.50)	8.36 (7.70)	N.S.	4.81 (5.50)°	8.00 (6.49)	t=-2.73, df 115, p=.007
Emotional Approach Coping Scale						
Processing (4-16)	10.18 (2.87)	9.26 (2.81)	N.S.	9.09 (2.80) °	8.41 (2.91) °	N.S.
Expression (4-16)	11.46 (3.08)	10.21 (3.38)	t=2.01, df=115, p=.047	11.22 (3.21)	8.54 (3.14) °	t=2.43, df=116, p<.001
Positive and Negative Affect Schedule						
Positive (10-50)	35.16 (7.62)	28.40 (7.43)	t=4.38,df=109, p<.001	35.49 (6.64)	30.71 (8.08)	t=3.4, df=116, p=.001
Negative (10-50)	14.05 (4.19)	17.06 (6.74)	t=-2.46, df=48.05, p=.018	14.29 (7.89)	17.29 (7.69)	t=-2.17, df=50.69, p=.035
Self Mastery Scale *(7-35)*	26.73 (4.51)	23.66 (5.62)	t=3.19, df=117, p=.002	27.29 (3.91)	23.73 (4.734)	t=4.40, df=119, p<.001
Loss Processing Scale						
Acceptance (3-15)	10.95 (2.72)	11.29 (2.39)	N.S.	10.95 (2.69)	10.63 (3.85)	N.S.
Moving on (4-20)	12.91 (3.66)	13.13 (4.16)	N.S.	13.04 (3.64)	12.48 (4.81)	N.S.
Self-reported distress (range)						
Hospital Anxiety and Depression Scale (0-36)	8.70 (8.00)	4.91 (5.48)	t=-2.96, df=53.22, p=.005	7.25 (6.98)	3.48 (4.09)	t=3.26, df=48.60, p=.002

° significant within group change over time at p<.05 N.S.=not significant

Relationship between adjustment scales and self-reported distress

As mentioned previously, insecurely attached patients reported more general distress according to the HADS than securely attached patients at both nine (p=.005) and 15 months after diagnosis (p=.002) (see previous Chapters and Table 2). In the present study we found that insecurely and securely attached patients who reported more intrusion, avoidance behavior, and negative affect, also reported higher levels of distress; patients reporting more positive affect, reported less distress. Patients with lower levels of mastery reported more distress at six (insecurely attached patients) as well as 12 months after diagnosis (secure and insecure attached patients). Processing and expression of emotions, and resolution of cancer-related grief, were not significantly related to distress (Table 3).

Table 3 Correlations between general distress and adjustment scales

Scale (range)	*Correlation with HADS*			
	6 months		12 months	
	Secure	Insecure	Secure	Insecure
Adjustment scales (range)				
Impact of Event Scale				
Intrusion (0-35)	.52[1]	.63[1]	.44[1]	.40[1]
Avoidance (0-40)	.27[2]	.53[1]	.41[1]	.32[2]
Self Mastery Scale *(7-35)*	N.S.	-.46 [1]	-.37[1]	-.39[2]
Positive and Negative Affect Schedule				
Positive (10-50)	-.36[1]	-.60[1]	-.44[1]	-.48[1]
Negative (10-50)	.61[1]	.70[1]	.73[1]	.70[1]
Emotional Approach Coping Scale				
Processing (4-16)	N.S.	N.S.	N.S.	N.S.
Expression (4-16)	N.S.	N.S.	N.S.	N.S.
Loss Processing Scale Disease				
Acceptance (3-15)	N.S.	N.S.	N.S.	N.S.
Moving on (4-20)	N.S.	N.S.	N.S.	N.S.

[1] difference between groups significant at p<.01,[2] p<.05
N.S.=not significant HADS=Hospital Anxiety and Depression Scale

5.4 Discussion

Our aim was to examine the process of adjustment to cancer of insecurely versus securely attached patients within one year after diagnosis, and to explore how this process was related to patients' self-reported psychological distress.

As was to be expected, we found that adjustment problems were quite strongly related to higher levels of self-reported distress, particularly for insecurely attached patients. They reported more adjustment problems than securely attached patients within one year after a cancer diagnosis. This may not only mean that adjustment problems

go together with distress, but also that some patient groups, such as insecure attached patients, are more *vulnerable* to develop adjustment problems as well as distress.

Insecurely attached patients reported higher levels of intrusion of unwanted thoughts and feelings concerning the cancer than securely attached patients. They experienced more negative, and less positive feelings than securely attached patients, and also less mastery over their situation. Although insecurely as well as securely attached patients showed some thought-avoidance concerning their illness, securely attached patients' level of avoidance decreased over time, whereas insecurely attached patients' level of avoidance did not significantly change. Two types of variables were consistently *not* related to level of distress: emotional coping (processing and expression of emotion), and loss processing (acceptance and moving on).

Although previous studies found that insecurely attached persons in general have more difficulties processing their feelings[64, 115-117, 129], in our study insecurely and securely attached patients reported similar and decreasing levels of processing from six to twelve months. However, in line with previous studies[64, 118] insecurely attached patients reported increasing difficulties expressing their emotions.

Insecurely as well as securely attached patients reported rather high levels of accepting their illness, and moving on with their lives. Based on insecurely attached patients' higher level of distress and difficulties adjusting, this finding somewhat surprised us; we had expected them to report lower levels of resolution than securely attached patients. Apparently, a positive reflection on one's ability to cope with cancer on a more general, or existential level, can co-occur with higher levels of distress. In another sample of patients with cancer[128] it was also found that patients who feel distressed, yet may feel they are integrating their cancer experience into their lives to a satisfactory extent. In the present study, not only secure but also insecurely attached patients seem to be showing such signs of resilience.

Concerning our method of assessing attachment style, we used a well-validated interview conducted by trained psychologists. Generally, interviews are assumed to reduce response bias and increase the activation of persons' attachment patterns by actively talking to the interviewer about relationships.[26] The Attachment Style Interview[27] that was used in the present study, inquires the quality of attachment relationships with three of patients' most close supportive 'others', for example one's sister or a close friend. This makes the ASI applicable to persons with and without a current romantic relationship.[26, 67] In addition, the ASI inquires attachment orientations concerning current 'others' in general, which may provide insight into current attachment-related feelings and behavior towards, for example persons of the medical staff[100] which are quite important for patients with cancer during their treatment. Another strength of this study is the longitudinal design, which enabled us to compare insecurely and securely attached patients' short as well as longer term adjustment to cancer. In addition, we have used a variety of well-validated questionnaires, which we correlated with patients' level of general distress. This allowed us to gain a differentiated perspective on potential differences in adjustment between insecurely and securely attached patients.

In order to prevent loss at follow-up, we thoroughly informed eligible patients about the time and effort participation would take: they were asked to give a very personal interview and fill out a multitude of questionnaires at five moments over the course of a year. Fortunately, although a minority of 30% of all patients who were informed by their physician on the study offered informed consent, a high percentage participated until the end of the study (87%).

We have distinguished between the insecure and secure attachment style, as differences in distress are typically found between these two styles.[15] However, within insecure attachment, the distinct sub-styles (preoccupied, avoidant, and fearful) may show different reports on distress and their process of adjustment. Our sample size did not allow us to perform statistical subgroup analyses, but we had the impression that the avoidant attachment style tends to report levels rather comparable to securely attached patients. Might this trend be confirmed by larger scale studies, this may imply that our results concerning the insecure group as a whole, may be more favorable than would have been found when analyzing scores of the subgroups of avoidantly, preoccupiedly and fearfully attached patients separately. Therefore, future research should aim to examine the process of adjustment to cancer of the distinct insecure attachment styles more thoroughly. This will provide a more detailed picture of the relationship between attachment style and adjustment to cancer, and may provide more specific clues on how individual patients can be optimally supported after a cancer experience.

We would like to conclude with some notions on implications for clinical practice. Fortunately, many patients in our sample reported relatively favorable levels of functioning. Still, it is important to identify and support patients who have an increased risk for adjustment problems in reaction to their illness, as was found among persons with an insecure attachment style. Our study shows that merely asking patients whether they are accepting their illness, and feel able to move on with their life may provide a somewhat misleading picture of their well-being. Although patients may report satisfactory levels of resolution of illness-related changes, they may yet be experiencing adaptation problems, such as feelings of anxiety, depression, signs of post-traumatic stress, shortage of mastery, an imbalance in negative and positive emotions and difficulties in expression of emotion. It may be helpful to explore patients' well-being by communication on three levels. First, by questioning their attitude towards their illness (such as level of self-reflection and motivation to cope with their illness, ideal self). Second, by questioning their actual feelings and problems concerning their illness and their life as a whole (real self). Third, by inquiring their important attachments and their attachment style. Our findings suggest that insecurely attached patients are more vulnerable to experience difficulties particularly in the second and third domain. Amongst others, Maunder and Hunter[35] and Thompson and Ciechanowksi[81] have provided descriptions of how attachment styles manifest themselves in illness situations. These may help health care professionals to understand and be responsive to their patients' attachment needs, which may help insecurely attached patients to adjust to their illness.

6

CHAPTER VI

Do patients trust their physician? The role of attachment style in the patient-physician relationship within one year after a cancer diagnosis

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ABSTRACT

Background. The degree of trust in and satisfaction with the physician has been shown to have important implications for treatment outcomes. This study aims to examine individual differences in patients' trust, satisfaction and general distress from an attachment theoretical perspective.

Material and methods. 130 recently diagnosed cancer patients of three medical hospitals were extensively interviewed by trained psychologists to assess attachment style. Patients completed standardized questionnaires three and nine months after diagnosis to assess trust, satisfaction and distress. t-tests and repeated measures ANOVAs were used to examine differences between securely and insecurely attached patients and changes over time. A mediation model based on a bootstrapping method was used to examine whether trust mediated between attachment and satisfaction, and attachment and distress.

Results. Insecurely attached patients (N=45, 35%) reported less trust in and satisfaction with their physician, and reported more general distress than securely attached patients three and nine months after diagnosis ($p < .05$). Trust and distress levels did not change over time. Trust mediated between attachment and satisfaction, but not between attachment and distress.

Conclusion. Insecurely attached patients trusted their physician less than securely attached patients, and in turn were less satisfied with their physician. Their higher levels of general distress were not related to their lower levels of trust. Attachment theory provides a framework to interpret differences in patients' trust, satisfaction and distress, and may help physicians respond in such a way that their patients feel secure, which in turn is expected to result in better health outcomes.

Keywords: attachment, trust, satisfaction, distress, physician-patient relations, cancer

CASE VIGNETTES - Relationship with one's physician

Mr. S, Securely attached

Diagnosis: gastrointestinal cancer, stage II. Characteristics: confident, cooperative, dependable, easy going, stable, warm, and sympathetic. Mr. S. is 46 years old, married, and has two young children.
'My physician is very friendly and comes across as a skilled person, and I believe he will do anything that is in my best interest. I liked it that he asked me about my opinion on different treatment options. This gave me the feeling that we're really into this together, that I have a say in things, too. I was happy I had brought my wife, with whom I am very close, along to my first visit. Although I am capable of making decisions on my own, in circumstances such as these it's nice to be supported by others. In all, I'm really satisfied with my physician.'

Mrs. P, preoccupiedly attached

Diagnosis: breast cancer, stage II. Characteristics: dependent, emotional, spontaneous, needy, reassurance seeking, self-revealing, and expressive. Mrs. P. is 53 years old, and living with her four teenage children since she is divorced.
'I believe my physician is a skilled person, who will do anything to cure me. He is also very empathic. I felt rather overwhelmed by my emotions during our first appointment. My physician took the time for me, and assured me that he would be there for me. However, it did disappoint me that he indicated that I could only visit him during working hours. What if I need him during the weekends? May be he doesn't like me that much... To make sure he stays involved, I always try to schedule a few extra appointments, so we can keep in touch at a regular base. Overall, I feel rather satisfied with my physician.'

Mr. A., avoidantly attached

Diagnosis: prostate cancer, stage II. Characteristics: autonomous, independent, rational, tough, unemotional, indifferent and headstrong. Mr. A. is 68 years old, married, has no children.
'I am glad my physician has the expertise to provide an optimal treatment – at least that is the impression he gave me. I appreciate it that my physician always provides me the facts about my prognosis and treatment, it makes me feel like he knows what he's doing. I don't like the idea of having to depend on someone else in deciding what to do, but I guess I just have to trust him in making decisions in my best interest. I often search information about cancer on the internet, which helps me feeling more in control of my situation. We discuss this information during our appointments, and he respects my opinion on things. Therefore, I am satisfied with my physician.'

Mrs. F., fearfully attached

Diagnosis: cervical cancer, stage II. Characteristics: cautious, distrustful, doubting, introverted, self-conscious, shy, and withdrawn. Mrs. F is 35 years old, and living with her two-year old daughter. She started a new relationship one year ago.
'I don't know whether I can trust my physician, but I feel my situation doesn't leave me any other choice. This makes me feel extremely vulnerable and I don't know how to deal with these feelings. I am definitely not going to tell my physician about my worries. I am afraid that he will not like me, that he will think of me as a weak, emotional person. On the other hand, I know I am only one of many patients to him, that he has no personal interest in me. I think it is best to keep a distance between us.'

6.1 Introduction

Given the bodily threat and uncertainties associated with the diagnosis of cancer and the accompanying dependency on physicians, patients may feel the need to trust their physician in making decisions in their best interest and doing everything possible to obtain good treatment outcomes.[130] A multitude of studies, among patients in the primary care setting or with an illness such as diabetes, has shown the various positive effects of patients' actual trust in their physician. Trust has been found to be positively related to e.g., adherence to medical advice, satisfaction with the caregiver, and participation in treatment decision making.[131] However, studies of patients' trust in their physician when confronted with cancer are relatively scarce.[131] A better understanding is needed of why some patients trust their physician more easily than others.[130, 132]

In the present study, we examine individual differences in trust among patients with cancer from an attachment theoretical perspective. According to attachment theory[10], childhood experiences with caregivers influence individuals' beliefs about how worthy they are to receive love and care, and what behavior may be expected from important others. These beliefs in turn influence their attachment style, i.e., how individuals perceive, feel and act within social relationships when they are confronted with a stressor. Within attachment theory, a distinction can be made between securely and insecurely attached individuals. Securely attached individuals feel worthy of care and tend to trust others being responsive when needed. Insecurely attached individuals on the other hand, feel unworthy of care, have difficulties trusting others, and see the other as unavailable or threatening. They show higher negative appraisal of stressors, and have difficulties regulating negative emotions and creating and making use of a social support network. Attachment studies within oncology research have found that insecurely attached individuals diagnosed with cancer report more distress than securely attached individuals.[47-50]

Because attachment styles are fundamental to how individuals perceive and respond to others when they are vulnerable, they are also likely to influence how individuals perceive and respond to their physician when confronted with cancer.[35, 81, 83] Within the context of medical relationships, an insecure attachment style has been found to be related to poorer ability to feel fully supported by medical staff[38], weaker alliance with one's surgeon[133], and poorer treatment adherence, especially when patient-physician communication is poor.[42] It has not yet been examined empirically whether insecurely attached individuals' general tendency to trust others less, also applies to their specific relationship with their treating physician. Moreover, it is not clear whether individuals' attachment-based level of trust in their physician, is related to their level of satisfaction with their physician and general distress.

We formulated two objectives. First, to examine whether insecurely attached patients report less trust in and satisfaction with their physician and more general distress than securely attached patients within three and nine months following their cancer diagnosis. It may be especially relevant to assess trust in early phases of the professional relationship, when patients have contact with their physician most frequently, and patients' trust is likely to influence the relationship as well as therapeutic outcomes. Second, to examine whether cancer patients' trust in their physician, medi-

ates the association between their adult attachment style and satisfaction, and between their adult attachment style and distress.

6.2 Material and methods

Patients

Patients were recruited from the University Medical Center Groningen and Martini Hospital in Groningen, and the Academic Medical Center in Amsterdam, the Netherlands. Patients were informed briefly about the study by the medical consultants of the collaborating departments. We invited patients aged 30 to 75 years who had received a first diagnosis of breast cancer, gastrointestinal cancer, cervical cancer or prostatic cancer within the past three months, had an expected survival of at least one year and were able to speak and understand Dutch. Eligible patients were informed by their physician that they were requested to give an extensive interview within three months and a shorter one after one year, and to fill out questionnaires five times within that year. Patients who were interested in participating, received an information letter and were informed that their answers would be treated confidentially and that they could withdraw at any time. We contacted patients who returned the informed consent to make an appointment for the first interview. Inclusion took place from March 2007 to December 2008. Before the study start, we considered a sample size of 122 as needed to be able to detect a small to medium effect ($p<.01$, 2-tailed) with 80% power. The study was approved by the Medical Ethical Committee.

Measures and procedure

This study is part of a longitudinal multi-center study on the influence of attachment style on adjustment to cancer. We assessed attachment style at the first measurement (within three months after diagnosis) and trust, satisfaction and psychological distress at the first and third measurement (nine months after diagnosis).

Attachment. We used the Attachment Style Interview[27], a well-validated semi-structured, investigator-based interview assessing adult attachment styles based on the ability to make and maintain supportive relationships, together with attitudes regarding several areas: mistrust, constraints on closeness, fear of rejection, self-reliance, desire for company, fear of separation and anger. An example of a question for mistrust is: 'Do you easily feel you can trust someone?'. The ASI allows for assessing the quality of relationships and type of attachment style: secure, or insecure: preoccupied, avoidant (dismissing/angry) or fearful. The distinct types of insecure attachment generally have in common doubts about the extent to which others can be trusted in providing safety and care when needed. We distinguished between having a secure and insecure attachment style, as differences are most typically found between insecurely and securely attached persons, for example with respect to the processing of attachment-relevant social information[20] or levels of psychological problems.[15] The

average interviewing time was 90 minutes. The interviewers received an extensive training by one of the developers of the ASI.

Trust. Patients' trust in their physician was measured by a short version of the Wake Forest Physician Trust Scale[134, 135], assessing trust in the physician who was most involved in the treatment during the past months. We used a shortened version, because we did not want to burden patients with more items than necessary to obtain an adequate indication of patients' trust in their physician. The five items administered were: 'My physician sometimes puts his/her own interests first', 'My physician is extremely thorough and careful', 'I completely trust my physician's decisions about which treatments are the best for me', 'My physician is totally honest in telling me about all of the different treatment options available for my condition', and 'All in all, I have complete trust in my physician'. The items were answered on a scale from 1 (totally agree) to 5 (totally disagree). After rescaling the positive items, higher scores indicate more trust. We calculated mean scores with a possible range of 1 (no trust) to 5 (full trust) for each patient. Cronbach's alpha was 0.86 at first assessment and 0.90 at follow-up.

Satisfaction. Satisfaction with the physician who was most involved during the treatment of the past months, was measured with an adapted and shortened version of the Patient Satisfaction Questionnaire.[136] We used a shortened version, because we did not want to burden patients with more items than necessary to obtain an adequate indication of patients' satisfaction in their physician. The five items were scored on a Likert scale ranging from 1 (not at all satisfied) to 7 (very much satisfied). The items are: 'To what extent does your physician meet your needs?', 'How satisfied are you with the information you receive from your physician?', 'How satisfied are you with the extent to which you are involved in the decision making process?', 'How satisfied are you with the (emotional) support you receive from your physician', and 'How satisfied are you with your physician in general?'. We calculated mean scores with a possible range of 1 (no satisfaction) to 7 (full satisfaction) for each patient. Cronbach's alpha was 0.95 at first assessment as well as follow-up.

General distress. The Hospital Anxiety and Depression Scale[71] is a standardized and validated self-report questionnaire[108] that assesses anxiety (7 items) and depression (7 items). We have combined the subscales into one total HADS-score. The anxiety and depression subscale are strongly correlated and are often combined into one distress scale, and the psychometric properties of the total scale are found to be comparable or even superior to the subscales.[108] Response options vary per item, but are all scored on a 4-point Likert scale ranging from 0 to 3. An example item is 'Lately, I feel tense'. The sum score of the 14 items ranges from 0 to 42 with higher scores indicating more psychological distress. Cronbach's alpha was 0.92 at first assessment as well as follow-up.

Patient characteristics and disease-specific variables. Cancer type was extracted from the patients' medical files. Gender, age, educational level, treatment type and presence of metastases at the first assessment (yes or no) were self-reported by the patients.

Presence of comorbidity was assessed by asking patients whether they had other diseases than cancer by presenting them a list with possible options (such as diabetes, kidney failure, high blood pressure) and the possibility to name a disease that was not listed. Physical status was assessed by an interviewer-based Karnofsky Performance Status[137], scores ranging from 0 (dead) to 100 (normal, no signs of disease) with standard intervals of 10.

Statistical procedure

Independent samples t-tests and chi-square tests were used to compare respondents and non-respondents with respect to age, gender and cancer type, respectively. These tests were also used to compare patient characteristics (see Table 1) of insecurely and securely attached patients. We considered an alpha of .05 (two-tailed) to be significant. We used independent samples t-tests to compare levels of trust, satisfaction and general distress between patients with secure and insecure attachment, and repeated measures ANOVA to examine changes from three to nine months after diagnosis. As we expected insecurely attached patients to report less trust and satisfaction, and more distress, we considered an alpha of .05 (one-tailed) to be significant. Effect sizes were examined by calculating Cohen's D.[109] Effect sizes of .19 or lower indicate negligible effects; between .20 and .49 small effects; between .50 and .79 medium effects; .80 or higher large effects. We also performed the analyses taking into account covariates that were related to either attachment style or trust. To test whether trust mediated the relationship between attachment and satisfaction, and between attachment and general distress, we used a macro developed by Preacher and Hayes[138] that relies on a bootstrapping technique. A test of a mediation model provides a point estimate of the indirect or mediation effect. To examine whether this point estimate is significant, a confidence interval around this point estimate can be obtained. Bootstrapping is a non-parametric procedure that provides this confidence interval. As recommended by Preacher & Hayes[139], we performed N=5000 bootstraps, which means that N=5000 samples have been taken from the original data by random sampling with replacement. Point estimates are calculated in each re-sample. The confidence interval for the effect in the population is based on the distribution of these point estimates. The indirect effect is considered significant (i.e., there is a mediation effect) when zero is not contained within the confidence interval.

6.3 Results

Sample characteristics

Of the 553 eligible patients, 165 patients (30%) agreed to participate and provided informed consent. Patients who declined participation did not differ from participants with respect to age and cancer type, but were more often male ($\chi^2(1)=5.270$, $p=.02$). Unfortunately, medical ethical regulations prohibited inquiring about reasons for non-response. Of the 165 participants, 157 patients agreed to complete the attachment style

interview as well as the questionnaires. Ten participants dropped-out before the nine months follow-up. Of the remaining 147 participants, 130 completed all items of the questionnaires. Participants were mainly female (70%) and on average 58.78 years (SD 9.35). For further sample characteristics, see Table 1. Insecurely attached patients did not differ from securely attached patients with respect to gender (p=.55), age (p=.14), educational level (p=.48), cancer type (p=.08), presence of metastasis (p=.42), and whether or not patients received treatment at the time of the first assessment (p=.64). Insecurely attached patients reported comorbidity more often ($\chi^2(1)=4.31$, p=.04) and had a poorer physical status (t=3.54, df=74.33, p=.001) than securely attached patients. Trust was correlated with comorbidity (r=.21, p=.018) but not with other patient characteristics.

Table 1 Sample characteristics (N=130)

	N	%
Gender *Female/male*	91/39	70/30
Age *Mean (SD)*	58.8 (9.4)	
Educational level		
Lower level vocational school	26	20.0
Secondary education/advanced level vocational school	61	46.9
Higher or post-secondary/University education	42	32.3
Missing	1	0.8
Cancer type		
Prostate cancer	37	28.5
Breast cancer	76	58.5
Intestinal cancer	8	6.2
Cervical cancer	9	6.9
Metastasis present	20	15.4
Missing	9	6.9
Comorbidity present	86	66.2
Missing	3	2.3
Physical status[1] (mean, sd)	89.29 (10.8)	
Treatment type at first assessment		
Chemotherapy	11	8.5
Radiotherapy	50	38.5
Hormonal therapy	22	16.9
Other therapy	3	2.3
No therapy	38	29.2
Missing	6	4.6
Treatment type at follow-up		
Chemotherapy	7	5.4
Radiotherapy	0	0.0
Hormonal therapy	30	23.0
Other therapy	14	10.8
No therapy	69	53.0
Missing	10	7.7

[1] as measured with the Karnofsky Performance Status[137]

Table 2 Differences between level of Trust, Satisfaction and Distress by attachment style

	SECURE (N=85)	INSECURE (N=45)			CHANGE FROM THREE TO NINE MONTHS AFTER DIAGNOSIS	
	Mean (sd)	Mean (sd)	Difference between secure and insecure attachment	Cohen's D	General change from 3 to 9 months	Interaction Attachment x Time
TRUST					F(1)=2.90, p=.091	F(1)=.74, p=.390
First assessment	4.36 (.63)	4.00 (.91)	*t*(67.19)=2.34, p=.02	0.39		
Follow up	4.30 (.55)	3.84 (.90)	*t*(61.95)=3.16, p=.001	0.51		
SATISFACTION					F(1)=.000, p=.989	F(1)=2.83, p=.095
First assessment	5.99 (.93)	5.20 (1.42)	*t*(64.86)=3.39, p<.001	0.55		
Follow up	5.84 (.91)	5.36 (1.38)	*t*(65.01)=2.06, p=.01	0.35		
DISTRESS					F(1)=.45, p=.502	F(1)=.84, p=.360
First assessment	4.80 (4.82)	10.27 (8.60)	*t*(57.79)=-3.92, p<.001	0.64		
Follow up	4.85 (5.44)	9.91 (8.70)	*t*(62.72)=-3.55, p<.001	0.58		

Relationship between attachment style and trust, satisfaction and distress

Forty-five (35%) patients were insecurely attached and 85 patients (65%) were securely attached. In line with expectations, insecurely attached patients reported significantly less trust in and satisfaction with their physician than securely attached patients (see Table 2). Furthermore, insecurely attached patients reported significantly more general distress. Two effect sizes were small (0.35-0.39), four were medium (0.51-0.64; see Table 2). On average, levels of trust, satisfaction and distress did not significantly change over time, and patterns of change were the same for securely and insecurely attached patients (see Table 2). Differences in trust, satisfaction and distress between insecurely and securely attached patients remained significant when covariates (i.e., physical status and comorbidity) were included in the analyses.

Mediation model

Results of the mediation model examining the relationship between attachment and satisfaction showed that at both assessment points, the 95% confidence interval did not contain zero, indicating a significant indirect effect of trust (see Table 3). However, trust was not found to mediate the relationship between attachment and general distress (see Table 3).

6.4 DISCUSSION

In line with our expectations, three months after diagnosis, insecurely attached patients reported less trust in and satisfaction with their physician, and reported more general distress than securely attached patients. These lower levels of trust and satisfaction and higher levels of distress were relatively stable over a period of six months.

Furthermore, we found support for the proposed mediating role of trust in the relationship between attachment and satisfaction. This indicates that insecurely attached patients are less satisfied with their physician than securely attached patients, because they trust their physician less. Contrary to our expectation, trust did not mediate between attachment and general distress. Thus, insecurely attached patients reported more general distress than securely attached patients, regardless of their level of trust in their physician.

The significant differences between securely and insecurely attached patients in mean levels of trust in and satisfaction with their physician should not obscure the fact that these levels were generally high, a finding which is in line with previous studies.[130, 140] It is somewhat surprising though, to find that insecurely attached patients also showed considerable trust in their physician, as a lack of trust in others is an inherent characteristic of the insecure attachment style. This suggests that when confronted with a serious illness such as cancer, patients develop an attachment relationship with their treating physician, resembling the primary attachment bond between child and caregiver. Under these circumstances in which the patient is very vulnerable, the patient may feel a high need to trust the physician, reflecting the inevitability of interpersonal trust within treatment relationships.[130] However, our results show that insecure-

Table 3 Summary of mediation results for trust

Model	Independent variable (IV)	Mediating variable (M)	Dependent Variable (DV)	Effect of IV on M	Effect of M on DV	Total effects	Indirect effect	95% Confidence interval	
								lower	upper
1	Attachment	Trust FA	Satis FA	-.35 (se=.14)**	.93 (se=.10)**	-.80 (se=.21)**	-.33 (se=.16)**	- .73	-.07
2	Attachment	Trust FU	Satis FU	-.47, (se=.13)*	.94 (se=.11)**	-.46 (se=.20)*	-.44 (se=.15)***	- .79	- .19
3	Attachment	Trust FA	Distress FA	-3.44, (se=.13)*	-.89 (se=.76)	5.48 (se=1.19)**	.30 (se=.33)	- .15	1.22
4	Attachment	Trust FU	Distress FU	-.47 (se=.13)**	- .18 (se=.86)	5.06 (se=1.24)**	.08 (se=.43)	- .92	.86

*significant at p<.05, **significant at p<.01, *** significant mediation effect, Trust=trust in physician, Satis=satisfaction with physician, Distress=psychological distress, FA=first assessment, FU=follow-up

ly attached patients were more reluctant to give full trust, not only recently after diagnosis, but also six months later. The effect sizes were small to medium. In general, medium effect sizes are clinically significant. It should be noted that even small effect sizes may have significant clinical implications.[141] For example, even having somewhat less trust in one's physician might have important negative effects on for example adherence to treatment or life style advices.[42]

For the interpretation of our findings, it is important to keep in mind a number of limitations as well as strengths. One limitation is the relatively low response rate. We thoroughly informed eligible patients about the time and effort participation would take in order to retain patients in the study during follow-up. Indeed we achieved a high percentage of compliance with respect to completion of follow-up (94%). A drawback may have been that a considerable number of patients expected to be burdened too much by the requirements of the study, and therefore did not give informed consent. Furthermore, patients were invited to participate by their physician, who may have influenced their patients to accept or decline participation. Patients who trusted their physician more, may have been more inclined to participate. This may have resulted in a selection bias of patients who expected not to be burdened too much by participation, and reported relatively high trust in their physician. Patients may also have reported higher levels of trust in their physician due to factors such as social desirability. However, the variance in the trust scores was large enough to detect significant differences in the expected direction.

We used shortened versions of the questionnaires measuring trust and satisfaction. We did not want to burden patients with more items than necessary to obtain an adequate indication of patients' trust in and satisfaction with their physician. Although the shortened versions of the questionnaires cover less dimensions of trust and satisfaction, patients' trust (and likely satisfaction) is found to behave as a holistic construct, and different dimensions correlate strongly with patients' overall degree of trust.[130] Therefore, we do not think that the use of shortened versions has influenced our outcomes.

A clear strength is that we are among the first to empirically examine the relationship between recently diagnosed cancer patients' attachment style, and their trust in and satisfaction with their treating physician and psychological distress. Furthermore, we have employed a heterogeneous sample of cancer patients and a longitudinal design, which increase the generalizability of our results. A particular strength is the use of an adult attachment style interview instead of a self-report instrument, as interviews may be less vulnerable to temporal instability, assess broader aspects of the attachment system, and are more likely to increase the activation of attachment patterns than self-report questionnaires.[26]

Our findings have interesting implications for clinical practice, as they can help physicians understanding and coping with different patient behaviors.[81] Securely attached patients may initially be stressed by their cancer diagnosis and may need and request support. However, their emotions are proportionate to the stressor, and they have a strong sense of alliance with their treating physician. Physicians will experience these patients as relatively easy and the encounter as rewarding.[36] Conversely, insecurely attached patients may show a range of dysfunctional types of behaviors and are challenging for physicians. Some patients feel uncertain about the availability of their

physician. They are clingy, seeking high levels of intimacy and showing dependency, to ensure their physician is available when needed. They are experienced as 'compulsive care-seekers', showing behavior that leads to high primary care costs.[41] Other patients tend to have a high opinion of themselves but are distrustful of others. They are experienced as 'compulsively self-reliant', characterized by non-compliance and defensiveness against building alliance with their physician, which leads to negative health outcomes especially when provider-patient communication is poor.[42] Patients who physicians experience as particularly difficult[44] are those who crave intimacy but are afraid of getting hurt. Their conflicting feelings make them report frequent symptoms but make them pay infrequent medical visits.[46] Amongst others, Maunder and Hunter[35] and Thompson and Ciechanowski[81] have provided elaborate descriptions of adult attachment patterns relevant for health care professionals.

Patients' dependency on their physician means a large responsibility for physicians; not only in a medical, but also in a relational sense. Because patients are assumed to develop an attachment relationship with their treating physician, violation of a patient's trust can have significant consequences for e.g. patient behavior and treatment outcomes. It is therefore important to be aware that attachment style reflects a tendency of patients to respond in a certain way, and that the interaction within a specific relationship influences feelings and behavior. Thus the role of the physician is highly important in shaping the relationship and enhancing and maintaining feelings of trust and satisfaction in insecurely attached patients.[81, 84, 85, 142] For example, explicitly voicing one's accessibility to an insecurely attached patient may be highly effective.[83] That is, telling the patient that he or she is not alone and you, as the physician, are available and approachable in times of need. The perception of availability may induce a sense of security and will help patients trusting their physician. Additionally, providing the patient with information about his or her condition or the medical care provided, may increase feelings of control and autonomy and will thus also help patients developing feelings of safety and comfort.[34, 84, 132] A secure physician-patient relationship may in turn not only improve patients' quality of life but will also have therapeutic benefits, as it will likely result in open communication about needs, more compliance and fewer unnecessary calls to physicians.[81, 83]

Our findings confirm that attachment theory is a useful framework to study cancer patients' views about their physician. The current study afforded an opportunity to advance this line of research by investigating the role of attachment style in relation to cancer patients' trust in their treating physician, satisfaction and general distress. An important next step is to make this knowledge available and practically useful for physicians. Helping physicians respond to all their patients in such a way that they feel safe and cared for is critical as it is expected to have a beneficial effect on a range of patient behaviors and health outcomes.

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7

CHAPTER VII

General discussion

The aim of the present study was to examine the relationship between persons' attachment style and their adaptation to cancer, within fifteen months after a cancer diagnosis. In this final chapter, we summarize and discuss our findings, taking into account strengths as well as limitations of our study, and suggest implications for clinical practice and future research. We start by presenting a description of our overall sample and design.

7.1 Description of the overall sample and design

A description of our overall sample is provided in Table 1. Our sample consisted of 157 patients with a relatively favorable prognosis: upon entry of the study, approximately 85% of the patients had no metastases, and all patients had a survival expectancy of at least one year. The majority of patients (85%) reported having other physical problems or illnesses, such as high blood pressure (20%), back pain (12%) and diabetes (10%). The prevalence of the secure attachment style as found in our sample (around 60%) is in concordance with that in prior studies.[73] Insecurely attached patients reported comorbidity relatively more often than securely attached patients. In line with literature[30, 75, 143-145], securely and insecurely attached patients did not differ with respect to cancer type, gender, age, or presence of metastases.

Table 1 General sample characteristics[1]

	Breast	Prostate	Cervical	Gastrointestinal	Total
N	**87**	**46**	**12**	**12**	**157**
Gender	87 female	46 male	12 female	7 female, 5 male	116 female, 41 male
Age (mean, sd)	56.3 (8.6)	64.9 (6.1)	51.7 (13.7)	61.8 (8.9)	58.9 (9.4)
Metastasis present	17	4	1	2	24
Attachment style	57 secure 14 avoidant 5 preoccupied 11 fearful	33 secure 8 avoidant 2 preoccupied 3 fearful	8 secure 1 avoidant 0 preoccupied 3 fearful	3 secure 6 avoidant 1 preoccupied 2 fearful	101 29 8 19

[1] Based on N=157 patients who participated in interviews as well as questionnaires

We have assessed patients at five time points over a period of 15 months, with an interval of 3 months. A description of the instruments we used at each time point is provided in Table 2. A total of 21 patients withdrew from the study. These patients were on average 59.9 (sd=10.4) years old; 12 patients were female (9 had breast cancer, 1 had cervical cancer, and 2 had intestinal cancer), and 9 patients were male (7 had prostate cancer, 2 had intestinal cancer). Four of them had metastases. Of the patients who withdrew, 7 were securely attached, and 12 were insecurely attached; 2 patients refused participation in the Attachment Style Interview on second thoughts.

Table 2 Instruments

	T1	T2	T3	T4	T5
	3 months[1]	6 months[1]	9 months[1]	12 months[1]	15 months[1]
Attachment Style Interview	√				
Hospital Anxiety and Depression Scale	√		√		√
miniSCAN	√				√
EORTC QlQ-C30	√		√		√
Wake Forest Trust scale	√		√		
Patient Satisfaction Questionnaire	√		√		
Impact of Event scale		√		√	
Positive and Negative Affect Schedule		√		√	
Emotional Approach Coping Scale		√		√	
Self Mastery Scale		√		√	
Loss Processing Scale		√		√	
Centrality of Event scale		√			√

[1] Months after diagnosis

7.2 Summary of the main findings

7.2.1 Insecurely attached patients experience more self-reported general distress and have more difficulties recovering from psychopathology

In *Chapter II*, we found that insecurely attached patients experienced higher levels of general distress than securely attached patients at three and 15 months after diagnosis. Insecurely attached patients appeared to be as likely as securely attached patients to develop psychopathology. However, they were somewhat less resilient in recovering from psychopathology, as was seen in the higher prevalence of psychopathology at 15 months after diagnosis when compared with securely attached patients. Insecurely and securely attached patients reported a similar lifetime history of psychopathology.

7.2.2 Insecurely attached patients report poorer health related quality of life and perceive the cancer as more central to their life

In *Chapter III*, we found that at three months after diagnosis, insecurely attached patients perceived their health related quality of life as worse than securely attached patients: they reported clinically relevant differences on all domains of daily functioning and overall quality of life.[99] As time passed, their quality of life on several domains

improved, to be comparable to levels of securely attached patients at nine and 15 months after diagnosis. However, at 15 months, insecurely attached patients still reported poorer physical functioning (e.g., walking) and cognitive functioning (i.e., memory and concentration), and poorer overall quality of life than securely attached patients.

Furthermore, six months after diagnosis, insecurely and securely attached patients reported similar levels of cancer centrality. However, whereas securely attached patients' level of cancer centrality decreased, levels of cancer centrality of insecurely attached patients at six and 15 months were rather comparable. At fifteen months after diagnosis, insecurely attached patients perceived the cancer as more central to their personal identity and other experiences in life than securely attached patients.

In addition, we found that most of the insecurely as well as securely attached patients who reported higher levels of cancer centrality, reported poorer daily functioning and overall quality of life at 15 months after diagnosis.

7.2.3 *The HADS and EF scale show comparable performances in identifying distinct levels of psychopathology, and insecurely attached patients show more self-reported distress than securely attached patients, regardless of level psychopathology*

In *Chapter IV*, we found that the HADS and EF scale were highly correlated, and showed rather comparable performance in identifying different levels of psychopathology as assessed with a clinical diagnostic interview. Furthermore, we compared insecurely and securely attached patients with similar levels of psychopathology (i.e., clinical cases, subclinical cases, or no cases). Regardless of level of psychopathology, insecurely patients showed higher levels of self-reported distress than securely attached patients.

7.2.4 *Insecurely attached patients experience more adjustment problems, but insecurely and securely attached patients are equal in their self-perceived resolution of cancer related grief*

In *Chapter V*, we found that insecurely attached patients reported more adjustment problems than securely attached patients within one year after a cancer diagnosis, such as intrusion of unwanted thoughts and feelings, more negative mood, and less mastery over their situation. These difficulties were strongly related to patients' self-reported distress. Despite these findings, insecurely and securely attached patients appeared to be equal in their self-perceived resolution of cancer related grief: they reported similar levels of acceptance of the cancer, and moving on with their life. Moreover, contrary to expectation, patients' self-perceived grief resolution was not related to their level of distress.

7.2.5 Insecurely attached patients have less trust in, and satisfaction with their physician

In *Chapter VI*, we found that three months after diagnosis, insecurely attached patients report less trust in and satisfaction with their physician, and report more general distress than securely attached patients. These lower levels of trust and satisfaction, and higher levels of distress, are relatively stable over a period of six months. Furthermore, insecurely attached patients' lower level of trust is related to their lower level of satisfaction with their physician, but is not related to their higher level of distress.

7.3 Discussion of the main findings

Our findings point to the conclusion that in general, insecurely attached patients are less able to adjust to a cancer diagnosis than securely attached patients. Insecurely attached patients, like securely attached patients, do show some resilience, i.e., are able to recover to a certain extent from most problems. However, they continue to struggle with some adjustment difficulties. Several comments can be made in light of existing literature.

The results of the first study (*Chapter II*) confirm previous findings of cross-sectional studies that insecurely attached patients report more distress after a cancer diagnosis than securely attached patients.[47-50] In addition, we found that although the level of distress of insecurely as well as securely attached patients decreased over time, insecurely attached patients continued to report more distress than securely attached patients. We found partial support for the previously reported assumption[15, 74] that insecurely attached patients are more vulnerable to experience psychopathology than securely attached patients. On the one hand, contrary to the assumption, we found that insecurely and securely attached patients had rather comparable levels of psychopathology at three months after diagnosis, and showed a similar amount of new onsets of psychopathology after the first three months. Moreover, they reported a similar lifetime history of psychopathology. On the other hand, confirming the assumption, insecurely attached patients did indeed experience psychopathology more often at 15 months after diagnosis, which seems to be due to these patients being less resilient in recovering from psychopathology than securely attached patients.

In addition to experiencing more distress and psychopathology, insecurely attached patients also reported poorer quality of life than securely attached patients (Study 2, *Chapter III*). It should be noted that in the present study, quality of life is based on self-report, thereby primarily reflecting subjective well-being[87], i.e., how individuals themselves perceive and react to their health status. Although we do not know to what extent patients' reports reflect their actual (or more objective) health status, our findings do indicate that the subgroup of insecurely attached patients perceive their quality of life as much worse than the subgroup of securely attached patients. As these differences may be considered as clinically relevant[99], attachment style may be an important factor to take into account when aiming to improve patients' quality of life after cancer.

Insecurely attached patients' difficulties adjusting to their illness, may also be reflected by our finding that insecurely attached patients report a higher level of cancer centrality at 15 months after diagnosis (Study 2, *Chapter III*). Centrality of major stressful events such as cancer, has repeatedly been shown to be related to increased distress and diminished well-being.[93, 94, 98] Indeed we found negative correlations between quality of life and cancer centrality. Furthermore, these correlations were stronger for insecurely than for securely attached patients. Thus, insecurely attached patients seem to be more preoccupied with their illness on the long run than securely attached patients, and for insecurely attached patients this preoccupation may be more strongly related to how they feel about their current condition. However, it should be noted that insecurely as well as securely attached patients reported relatively low levels of cancer centrality[98], suggesting that most patients are, at least to some extent, able to positively integrate their illness experience into their concept of self and life.

In Study 3 (*Chapter IV*), we found that insecurely attached patients reported more distress on questionnaires than securely attached patients, regardless of their level of psychopathology. This may suggest that responses to distinct types of measures may to a certain extent be influenced by patient characteristics. Unfortunately, our data do not allow us to further examine the underlying mechanisms of this finding. Speculating on explanations, the interpersonal format of a clinical diagnostic interview may activate attachment patterns more than self-report questionnaires[26], thereby influencing outcomes. Furthermore, it is likely that classifying persons as having a disorder, symptoms, or no symptoms, limits the identification of more subtle differences in distress. It may even be that questionnaires and interviews measure different types of distress. Therefore, in our opinion it would be too simple to appoint the diagnostic interview as the gold standard when measuring distress. On the other hand, our results confirmed previous findings that when clearly aiming to identify patients who suffer from psychopathology, questionnaires can provide a fair indication of these patients.[105, 107, 111]

In Study 4 (*Chapter V*), we explored possible correlates of distress, to deepen our understanding of why insecurely attached patients experience more distress after their cancer diagnosis than securely attached patients. As expected, insecurely attached patients reported more adjustment problems than securely attached patients, such as intrusion of unwanted thoughts and feelings and negative affect, and these problems were related to their heightened levels of distress. Again, it should be noted that in general, the level of adjustment problems of patients was relatively low: most patients experienced few negative feelings, reported relatively high levels of mastery, and did not experience their cancer diagnosis as a traumatic event.[122, 123, 146] Thus, insecurely attached patients seem able to adjust to their illness, too.

Furthermore, given these adjustment problems, and our findings in Study 1 (*Chapter II*) and Study 2 (*Chapter III*), we expected insecurely attached patients to be less able to accept their illness and move on. Surprisingly, insecurely and securely attached patients were equal in their self-perceived grief resolution. Again contrary to expectations, grief resolution was not correlated with distress, intrusion, or negative affect. On the one hand, our findings indicate that it is important to ask patients more direct questions on possible difficulties within their process of adjustment, such as

whether they experience intrusion of their illness. Inquiring patients on whether they feel they are accepting their illness and are able to move on, may provide insufficient information on whether or not they are experiencing any psychological difficulties. On the other hand, our findings may show that patients who feel distressed, may yet feel they are able to integrate their cancer experience in their life to a satisfactory extent.

Finally, in Study 5 (*Chapter VI*) we found that insecurely attached patients had less trust in their physician, which is in line with previous studies reporting that insecurely attached patients have poorer ability to feel fully supported by medical staff[38], have weaker alliance with their surgeon[133], and show poorer treatment adherence, especially when patient-physician communication is poor.[42] Although differences between insecurely and securely attached patients were small, even small effect sizes may have significant clinical implications[141]: lower levels of trust have been found to be related to e.g., interpersonally difficult therapeutic relationships, lower adherence to treatment recommendations, lower attendance of follow-up consultations, and worse treatment outcomes.[42, 147-151] Insecurely attached patients' level of trust in their physician was not related to their level of general distress. This confirms the idea that illness related distress is likely to be more strongly related to perception of self ('How do I cope with my illness?') than to perception of others, such as one's physician.[152]

Most patients in our sample reported relatively high levels of trust in and satisfaction with their physician, as is generally found among persons in the medical context.[130, 140] It was somewhat surprising to find that insecurely attached patients report considerable trust in their physician, too, because a lack of trust in others is an inherent characteristic of the insecure attachment style. High levels of trust may reflect persons' need to trust a more 'powerful other' under the circumstances of their illness, which may apply to both insecurely and securely attached patients. High levels of trust may also be due to other factors, such as social desirability bias. Unfortunately, our study design did not allow us to examine the mechanisms behind patients' level of trust. This should however not obscure the fact that insecurely attached patients continued to be more reluctant to provide full trust than securely attached patients.

We have not included questionnaires on personality traits, because we were primarily interested in the relationship between *interpersonal* processes and adaption to cancer. Whereas attachment styles are relationship oriented ('I am nervous when anyone gets too close') having the biological function of protecting a person from physical and psychological harm[19], personality traits usually comprise more general orientations (e.g., 'I easily get nervous'). Although attachment style is meaningfully related to personality characteristics such as neuroticism and extraversion[73, 145, 153], and other mental structures such as need of dependency[19, 154], attachment style is found to be a unique person characteristic.[155] We did not want to burden patients with additional questionnaires and therefore solely administered questionnaires on the relationship between attachment style and adaptation to cancer.

Because our sample includes patients with a relatively favorable prognosis, we can primarily draw conclusions on the process of adaptation of patients in 'hopeful' circumstances. However, the few studies among patients with worse prognosis have also found that insecurely attached patients have more difficulties adjusting to the cancer

diagnosis than securely attached patients.[37, 47] Furthermore, our results confirm findings of other studies among patients with, e.g., diabetes[42, 46], somatoform disorders[156], alopecia[91], chronic idiopathic urticaria[157], physical impairments[158] and pain[144, 159, 160], showing that attachment style is related to psychological distress and adjustment in distinct illness situations.[74] Thus, our findings may have implications for psycho-oncology, as well as health psychology research and practice in general, which will be discussed in the remainder of this thesis.

7.4 Methodological issues

7.4.1 Strengths of the study

Most studies examining the relationship between attachment style and illness related outcomes have administered questionnaires to assess attachment style. The present study was the first to conduct attachment style interviews among cancer patients. Interviews conducted by well-trained interviewers may be assumed to accurately detect characteristics of a certain attachment style.[26] Interviews enable the probing of the answers of patients, which is not possible when solely using questionnaires to assess attachment. An example of this concerns a female patient stating that she felt no difficulty in being away from her husband and children for one night. When the interviewer asked for more details, it appeared that the patient prevented being separated from her family; there indeed appeared to be discomfort with separation. The Attachment Style Interview[27] that was used in the present study, inquires the quality of attachment relationships with three of patients' most close supportive others, for example one's marital partner or a friend. This makes the ASI applicable to persons with and without a current romantic relationship.[26, 67] In addition, the ASI inquires attachment orientations concerning others in general, which may provide insight into attachment-related feelings and behavior towards for example persons of the medical staff.[100] That the ASI inquires current relationships is important, as these are assumed to influence short- and long-term illness adaptation and distress.

The present study is among the first to explore the relationship between attachment style and psychopathology among cancer patients using clinical diagnostic interviews. This enabled us to examine the relationship between attachment style and psychopathology in a more optimal way then when using questionnaires for this purpose.[4] The six interviewers conducting the ASI and miniSCAN were all experienced psychologists, who were well-trained in providing the interviews and were monitored during the interview period.

We have used a variety of well-validated questionnaires to assess patients' process of adjustment and level of distress. This allowed us to examine many aspects of patients' adaptation to cancer, in order to gain a differentiated perspective on potential differences between insecurely and securely attached patients. Our longitudinal design enabled us to examine the relationship between patients' attachment style and adaptation to cancer over time, providing insight in the specific time frames in which attachment may be of influence on adaptation. The generalisability of the results was

increased by the heterogeneous sample of cancer patients, including both genders and several types of cancer.

7.4.2 Limitations of the study

Of the 553 eligible patients that were approached for participation, 165 patients (30%) agreed to participate and provided informed consent. We thoroughly informed eligible patients about the time and effort participation would take in order to retain patients in the study during follow-up. Indeed we achieved a high percentage of compliance with respect to completion of follow-up (approximately 87%). A drawback may have been that a considerable number of patients expected to be burdened too much by the requirements of the study, and therefore did not give informed consent. This may apply especially to patients with for example higher levels of distress and poorer quality of life. Fortunately, we were able to include enough patients, with a sufficiently large distribution of the outcomes, to meet our aim of examining differences between insecurely and securely attached patients. Before the study start, we considered a sample size of 122 as needed to be able to detect a small to medium effect ($p<.05$, 2-tailed) with 80% power. We included well over 122 patients. However, our overall sample size was relatively small given the considerable number of statistical tests performed, which may have decreased the power of the study. Given this limitation and the limited empirical research on the relationship between attachment style and adaptation to cancer thus far, more research is needed to confirm findings of the present study.

Furthermore, we have examined differences between insecurely and securely attached patients, as largest differences in distress are typically found between the secure and insecure attachment style.[15] However, post-hoc exploration of our data suggests differences between the distinct insecure attachment styles. In line with previous findings amongst persons under stressful circumstances[15, 27, 77-80], avoidantly attached patients tend to report lowest levels of distress and psychopathology (showing more similarity to levels reported by securely attached patients), and fearfully attached patients tend to report highest levels of distress and psychopathology. Unfortunately, the sample size of our insecure attachment group did not allow us to perform subgroup analyses. Notwithstanding the likely differences across the insecure attachment styles, we do not expect that the main message of our study, i.e., that insecurely attached patients are vulnerable to experiencing more distress and adjustment problems after a cancer diagnosis, would have differed when we had taken the different insecure styles into account. Yet, it would have provided a more detailed picture of insecurely attached patients' adaptation.

7.5 Clinical considerations

This thesis primarily concerns the relevance of a theoretical concept for research. However, in combination with findings of previous studies, we believe our findings may have implications for future clinical practice. Given that the majority of persons consulting psychological practice has insecure attachment patterns[23, 77, 161], we believe

that attachment style is a characteristic that should be taken into account when working with patients in a medical or psychological setting. Although the considerations discussed below are targeted at physicians and psychologists, these considerations are also of interest to other health care professionals working with patients with cancer.

7.5.1 Considerations for physicians

Physicians' main priority concerns the treatment of patients' physical illness. However, an increasing amount of studies shows that psychological factors may influence health status and treatment outcomes, emphasizing the relevance of having knowledge of psychology to physicians.

Due to the threatening nature of a cancer diagnosis, it should be considered that patients' attachment orientations are salient especially within the oncology practice. Patients are highly dependent on their physician for their physical safety. Therefore, it may be assumed that patients form a temporary, but quite important adult attachment relationship with their physician, which dynamics will be influenced by their previous relational experiences. *Awareness of differences between attachment styles of their patients, may help physicians understanding patients' behavior after the cancer diagnosis, and their different ways of communicating within the professional relationship.*[34-37, 81, 82] Insecurely attached patients' behavior in particular may sometimes be considered as 'difficult' by physicians (see Chapter I). It is useful to consider that this behavior may be an outward reflection of patients' specific attachment difficulties, which requires a responsive reaction of the physician.

Especially when the relationship with the patient concerns prolonged contact, it may be helpful when physicians adapt their responses to patients with different attachment styles: i.e., *show flexible and responsive behavior meeting the patient's need for safety.* For this purpose, it may be helpful and sufficient when the physician first explores the patient's needs, for example by inquiring about the patients' need for autonomy or support, and second, responds to these needs. For example, one may respond to avoidantly attached patients by respecting and anticipating their need for autonomy and control. Preoccupiedly attached patients, having a high need for care, may benefit from empathic behavior, but also from a context of clear and meaningful boundaries that respect both the needs of the patient and the possibilities as well as limitations of the physician. In case a patient is experienced as too difficult to communicate with, a consultation with a psychologist may be useful.[162] If required, a very short questionnaire such as the Relationship Questionnaire (RQ)[25] may be administered to gain more insight into a patient's attachment style.[26] A flexible and adaptive approach of patients, as well as transparent communication about a patient's needs, may lead to more satisfactory professional relationships, more compliance and less medical consumerism. Several experienced researchers have provided elaborate descriptions of adult attachment patterns, relevant for health care professionals.[35, 36, 81]

In addition, *physicians may benefit from becoming aware of their own attachment style,* as their attachment style may also affect communication within the therapeutic relationship, and, hence, influence therapeutic outcomes.[15, 81, 82, 100] For example, an avoid-

antly attached physician may avoid involvement in a patient that he or she perceives as illegitimately demanding, rather than communicating with the patient about his or her problems. This may lead to increasing discomfort within the physician as well as the patient. In order to become aware of the influence of one's own and patients' attachment style, and to learn how to make use of this knowledge, physicians may benefit from professional training (see paragraph 7.6).

When a patient shows severe or enduring psychological problems that seem to require professional attention, it can be helpful to discuss this situation within the medical team, and if necessary, to consult a medical psychologist. It may *be important to inform the psychologist on any problems within the relationship between the patient and physician*, as these may be related to the psychological problems of the patient. Such information can be taken into account when offering the patient psychological support or treatment.

7.5.2 Considerations for psychologists

To identify those patients whom may benefit from professional psychological care, it is important to screen patients on psychological problems. However, one should be aware that patients show different distress trajectories.[101, 163] For example, some patients with heightened levels of distress recently after diagnosis, are able to recover from their distress in a short time-frame. Other patients report lower levels of distress recently after diagnosis, but show higher levels of distress on the long term. Therefore, *it may be helpful to monitor patients repeatedly on ward over a longer period of time from diagnosis*. When a patient's level of distress does not decrease, or even increases over time, it may be adequate to conduct a clinical diagnostic interview, such as the miniSCAN.[70] In addition, it may be helpful to include an instrument assessing attachment style in clinical assessment batteries.[15, 100] Amongst others, Ravitz and colleagues[26] have provided more information on which self-report instrument is most appropriate for a given setting. More tailored psychological support may prevent further decline of the patients' emotional and psychosocial functioning and quality of life.

A psychologist working with patients having (had) cancer, can *explore the type and role of attachment in the specific psychological problems of a patient, as well as in the therapeutic relationship*. Especially when a patient's level psychological problems does not decrease, the issues that are to be addressed may be related to aspects of insecure attachment or distressing relational problems in life.[164, 165] Although relational problems may not always have a clear connection with the cancer, this connection may indeed exist. Patients' physical vulnerability may for example trigger feelings of emotional vulnerability within the relationship with a dominant partner. Relational problems may also be more clearly related to, or made manifest by the illness. For example, patients may worry that their partner does not understand their feelings, or will dislike them because they are more dependent now they are ill. Patients may also feel that lasting consequences of their cancer, such as fatigue, are poorly understood and acknowledged by others in general. Themes to work on for patients may be, for example, to learn recognizing signals of one's personal attachment style (e.g., withdrawal, diffi-

culties in asking for help, feelings of loneliness), strengthening of one's social network, and experimenting in being open about one's illness in an adequate way.[36, 86] This may also increase patient's feeling of control over their situation. Approaches such as cognitive-behavioral therapy, schema therapy, emotion-focused therapy or systemic therapy, may be helpful in e.g., teaching the patient to interpret and respond to others' behavior and events in a more helpful way.[86, 166]

Concerning the therapeutic relationship, the psychologist may be attentive to characteristics of the working alliance, which is an important variable in determining therapeutic success.[167] Insecurely attached patients may on the one hand avoid interpersonal closeness with their therapist and show less emotional commitment; on the other hand, they may worry about the psychologist's investment in them and show clingy or dependent behavior.[23] *Psychologists who are sensitive of insecure attachment patterns of their patients, and are responsive in meeting their different attachment needs, may foster a strong and more secure relationship,* thereby contributing to therapeutic change.[100] Similarly, when required, *the psychologist can advise physicians in being responsive to their patients,* which may help patients to feel secure within the patient-physician relationship.

7.6 Implications for future research

First, our results indicate that attachment style is related to patients' level of distress and process of adjustment after a cancer diagnosis. It may be helpful to examine the optimal time point and the best way to incorporate attachment into psychological screening and treatment, so patients can profit most from psychological support. For this purpose, it is recommended to examine differences in level of distress and adjustment of the distinct insecure attachment styles into more detail. This will provide more specific clues about the difficulties patients with different attachment styles experience, and will aid in tailoring psychological treatment to patients' individual needs. Although the distinct insecure attachment styles share a lack of trust in others' availability in times of stress, there are different underlying causes for their level of distrust and subsequent responses. Insecurely attached patients may therefore require different approaches by professionals such as physicians and psychologists.

Second, it is recommended to examine how knowledge of Attachment theory can be made available and practically useful for physicians and psychologists.[82] For example, it can be explored what the most efficient way is to include information about attachment styles in the medical and psychological curriculum, for example in courses related to professional-patient communication. It can also be explored whether it is beneficial to coach professionals at an individual level.

Third, a considerable number of patients who were struggling with adjustment problems, reported they had accepted their illness and were moving on with their life. When investigating persons' adaptation to illness, it is therefore recommended to inquire patients about their process of adjustment with more direct questions on, for example, their level of distress or intrusion of unwanted thoughts and feelings concerning their illness. In addition, it may be explored what resolution of cancer related grief, i.e., 'acceptance' and 'moving on', means to patients. We assume that patients'

self-reported cancer resolution reflects a cognitive coping modus, that may function apart from actual emotional well-being. However, this assumption needs to be investigated.

Fourth, more recent literature reports on the perception of positive changes in life after cancer, such as heightened appreciation of relationships and life, often referred to as 'post-traumatic growth'.[168-171] The attachment theoretical perspective may broaden the scope of research on psychological 'growth' after cancer. In more recent discussions, researchers have proposed that post-traumatic growth may be a coping style.[172, 173] It is likely that insecurely attached persons, who are more preoccupied with 'deficiency needs' (physiological, safety and social needs, such as love, belonging and esteem) as defined by Maslow's[174] hierarchy of needs, are less able to find and experience personal growth or positive meaning in their cancer experience than securely attached patients.[174] On the other hand, we found that insecurely attached patients report higher levels of cancer centrality, which has been related to diminished well-being, but also to higher levels of post-traumatic growth.[93, 94, 172] Moreover, level of post-traumatic growth was found to be higher in persons who perceived a stressor as more threatening, and showed more intense emotional responses[175], as is seen among insecurely attached persons. Thus, it may be that insecurely attached patients, in spite of the psychological difficulties they experience, are yet able to experience positive consequences of their illness. This may in turn lead to higher levels of grief resolution. Future research may provide more insight into this subject.

7.7 General conclusions

Taken together, although insecurely attached persons feel they are able to accept their illness and can move on with their life, in the first fifteen months after a cancer diagnosis they are more often struggling with psychological distress, poorer quality of life, and other adjustment difficulties than securely attached patients. Our study contributed to the existing literature on attachment as well as adaptation to cancer, by prospectively investigating the part attachment style plays within the adaptation process. This thesis highlights the importance of being aware of a person's attachment style when providing medical or psychological treatment for cancer. Knowledge of attachment styles may help interpreting patients' short and longer term responses to their diagnosis and behavior during treatment. In addition, it may provide clues on how to meet patients' individual needs for care. This is likely to fostering trusting and satisfying therapeutic relationships, which may result in more favorable treatment behavior and outcomes. Future research is needed to examine an optimal time point and the best way to incorporate attachment into psychological screening and treatment.

7.8 Personal reflections

My involvement in this study started in 2008, when the study had already been designed, and patient inclusion and data collection had already started. It took me quite some time before I felt the study was 'my own': I often joked to others that I was 'rais-

ing someone else's child', and that I needed to learn to be a good parent (i.e., conduct adequate research), as well as to cope with a child that I not yet fully understood ('why was this questionnaire chosen?'). Fortunately, during the years of my study, I have always considered the Attachment theory as fascinating as I thought it would be when I applied for this PhD-position. Therefore, although the 'upbringing of this child' has known some difficult times, I have also experienced much pleasure when executing the study and learning to conduct research.

Most of all, I have enjoyed talking to patients about their illness and attachment to others. Many patients indicated during the interviews that they were surprised by its main subject, being one's perception of self in relation to others. Patients expected that the interview would mainly concern the physical aspects of the cancer and its treatment, and subsequent consequences and impairments. As one patient expressed: 'I now realize I don't really think about relationships that much. It's all about the cancer, and all energy is focused on survival. You just go along with whatever is required to get well.' Although many patients wondered why I inquired them about relationships, most of them did not seem to mind talking about this subject, although some disclosed more spontaneously than others. I noticed that patients differed substantially regarding the content of their answers on the interview questions. For example, whereas some patients said to disclose all of their worries to their partner, other patients were more hesitant in doing this, for example because they did not want to burden their partner. And whereas some patients found it difficult to choose three 'others' with whom they were most close because they had many close others, other patients found this more difficult because they had few close others to turn to for support.

Furthermore, I noticed similarities as well as differences in how patients emotionally responded to their illness. Nearly all patients told me how frightened they were when they heard they were diagnosed with cancer. Many patients immediately thought of dying, of losing their hair due to chemo therapy, or considered the negative impact the diagnosis would have on their children. However, upon the time of our conversation at three and/or 15 months after diagnosis, some patients experienced little psychological distress ('the resilient ones'), whereas others found it more difficult to cope with changes and worries related to their illness.

During the years of my study, I have often thought that there may be some unfairness in the appreciation that 'resilient' patients generally receive from others for being 'strong', compared to those who are not able to show that much emotional strength. Particularly when more time since diagnosis has passed, patients are often expected to let go of their experience and move on with their life. However, for some patients, such as those with an insecure attachment style, showing resilience and moving on is more difficult than for others. I hope that this thesis will foster our understanding of individual differences in adaptation and resilience, and will help in finding ways to support patients in their efforts to regain their well-being.

SUMMARY

For most persons, the threat of death and suffering that is related to the diagnosis of cancer induces feelings of vulnerability and fear. Moreover, for many persons the treatment of cancer is intense and burdensome. Most persons can find a way of coping with these difficulties and are able to recover from their psychological distress. However, some persons have more difficulties adjusting to their illness than others. In this thesis, we examined persons' process of adjustment to cancer from the framework of Attachment theory.

Introduction of Attachment theory

In *Chapter I,* we outline the general tenets of Attachment theory, and describe results of previous studies on the relationship between attachment style and adjustment to stressful events. Attachment theory posits that persons have a genetically predisposed motivation to seek closeness to a significant other for comfort and safety, when they are confronted with a stressor. Persons who have sustained positive experiences concerning the availability and responsiveness of close others in stressful situations, develop positive 'internal working models' (thoughts and expectations) of self and others in general, in other words, become *securely attached*. Working models predict persons' thoughts, feelings and behavior during stressful times. Securely attached persons feel worthy of love and care, and believe that others are available to provide support when they are unable to cope with stressors on their own.

In some cases the natural process of attachment is interrupted, hindering the formation of good quality bonds with others. This is often due to adverse childhood experiences with caregivers, for example when caregivers repeatedly decline, humiliate or neglect their child. In these cases, the child's need for emotional safety, love and care is not fulfilled. Through repeated negative interactions with important others, children can develop negative working models of self and others in general, leading to an *insecure attachment style*. There are several patterns of insecure attachment, having in common doubts about the extent to which others can, or want to comfort them when they feel distressed. Bartholomew & Horowitz[25] have described three adult insecure attachment patterns, based on the content of internal working models (positive or negative) and level of interpersonal anxiety or avoidance. Preoccupiedly attached persons have a negative working model of self and a positive model of others. They have low confidence in their ability to take care of themselves, and therefore turn to others for emotional support. Because they are anxious that others will not be available when needed and feel distress at being separated, they are preoccupied with keeping the other close. Avoidantly attached persons have a positive working model of self and a negative model of others. They perceive others as unavailable and unable to provide adequate support when needed, and therefore value independency and self-control. They deny attachment needs and feel uncomfortable with emotional closeness, which they themselves typically describe as a need for privacy. Fearfully attached persons have negative working models of both self and others. Because they feel unable to cope with stressors on their own, they have a high need to be with others. However, they expect others to reject and abandon them when they get too close, and therefore avoid

talking about their emotions and becoming close to others. Insecurely attached persons generally show a higher level of self-reported distress after stressful events than securely attached persons. They tend to perceive events as more stressful, are less able to intentionally regulate negative thoughts and emotions, and are less effective in eliciting and making use of social or professional support.

In the latter part of *Chapter I,* we describe our expectations of how attachment style may be related to the process of adjusting to cancer in particular. Throughout the thesis, beginning in Chapter I, we provide case vignettes to offer examples of how persons with different attachment styles may experience their illness situation.

The present study

In *Chapter II to VI*, we describe the findings of our distinct studies. Our sample consisted of 157 patients with recently diagnosed breast, prostate, colon or cervical cancer, all with a survival expectancy of at least one year. They received medical treatment in the Academic Medical Center in Amsterdam, the University Medical Center Groningen, or the Martini Hospital in Groningen. We followed patients from three to fifteen months after diagnosis, with a total of five assessment points at a three-months interval. This time period reconciled the need to have a sufficiently long and intense time period to capture patterns of changes, responses and problems. Patients were interviewed at the first and last assessment point, and filled out questionnaires at all five assessment points. The first interview, at three months after diagnosis, assessed attachment style (Attachment Style Interview, ASI) and psychopathology (miniSCAN). The second interview, at fifteen months after diagnosis, assessed psychopathology. For the present study, we distinguished between insecurely and securely attached patients, and examined differences in their process of adaptation to cancer. The results of our attachment style interview showed that around 40% of patients was insecurely attached. Our findings point to the conclusion that insecurely attached patients in general experienced more problems during their process of adaptation to cancer than securely attached patients.

In *Chapter II*, we describe our study of the relationship between attachment style and psychological problems at three and fifteen months after diagnosis. First, we compared the level of psychological distress of insecurely and securely attached patients, as assessed with a self-report questionnaire. The results show that recently after diagnosis, insecurely attached patients experienced higher levels of distress than securely attached patients. Although their level of distress decreased, as did the level of securely attached patients, at 15 months after diagnosis insecurely attached patients again reported more distress than securely attached patients. This finding confirms previous cross-sectional studies, showing that insecurely attached persons with cancer report higher levels of distress than securely attached persons. Second, we compared the prevalence of psychopathology among insecurely and securely attached patients, as assessed with the aforementioned clinical diagnostic interview. We distinguished between patients with (a) a psychiatric disorder, (b) symptoms below the threshold of a disorder, and (c) no symptoms. Contrary to expectations, insecurely attached patients

appeared to be as likely as securely attached patients to develop psychopathology (either a DSM-IV disorder, or symptoms below the threshold of a disorder) as established with a clinical diagnostic interview. However, they were somewhat less resilient in recovering from psychopathology. Third, we asked patients during the first interview whether they had experienced psychological problems, or were diagnosed with psychiatric disorders in the past. Insecurely and securely attached patients report a similar lifetime history of psychological problems and psychopathology.

Insecurely attached patients also appeared to perceive their health related quality of life as worse than securely attached patients, as is described in *Chapter III*. Patients filled out a questionnaire about among other things their physical, cognitive, and emotional functioning, and their overall quality of life. Results showed that insecurely attached patients reported clinically relevant differences on all domains of daily functioning and overall quality of life. As time passed, insecurely attached patients' quality of life on several domains improved, to be comparable to levels of securely attached patients at nine and 15 months after diagnosis. However, at 15 months, insecurely attached patients still reported poorer physical functioning (e.g., walking) and cognitive functioning (i.e., memory and concentration), and poorer overall quality of life than securely attached patients.

We also asked patients how central the cancer was to their perception of self, others and life, in this thesis referred to as 'cancer centrality'. Six months after diagnosis, insecurely and securely attached patients reported similar levels of cancer centrality. However, whereas securely attached patients' level of cancer centrality decreased, levels of cancer centrality of insecurely attached patients at six and 15 months were rather comparable. At fifteen months after diagnosis, insecurely attached patients perceived the cancer as more central to their personal identity and other experiences in life than securely attached patients. Most of the insecurely as well as securely attached patients who reported higher levels of cancer centrality, reported poorer daily functioning and overall quality of life at 15 months after diagnosis.

In Chapter II and III, we gained insight into the level of psychological distress of patients, by means of two questionnaires: the Hospital Anxiety and Depression Scale (HADS, Chapter II) and the Emotional Functioning scale (EF scale, Chapter III). In *Chapter IV,* we first examine to what extent scores on the HADS or the EF scale can provide an indication of level of psychopathology as assessed with the clinical diagnostic interview. We again distinguished between patients with (a) a psychiatric disorder, (b) symptoms below the threshold of a disorder, and (c) no symptoms. Results showed that our instruments assessing patients' psychological difficulties (i.e., HADS, EF scale and clinical diagnostic interview) strongly correlate, and that the HADS and EF scale show comparable performances in identifying patients with different levels of psychopathology. Furthermore, we compared insecurely and securely attached patients with similar results on our clinical diagnostic interview (i.e., having a DSM-IV disorder, symptoms below the threshold of a disorder, or no symptoms). Regardless of level of psychopathology, insecurely patients showed higher levels of self-reported distress than securely attached patients, with medium and large effect sizes. Thus, on the one hand, self-report questionnaires may to a large extent be able to identify patients

with different levels of psychopathology. On the other hand, results of a clinical diagnostic interview may not always reflect differences in self-reported psychological distress between patients. Insecurely attached patients may respond differently to questions about their psychological problems on a questionnaire, than to questions asked by a psychologist during a clinical diagnostic interview. Future research may shed more light on this issue.

In *Chapter V*, we have aimed to gain more insight into the way insecurely and securely attached patients adapt to their illness at six and twelve months after diagnosis. Insecurely attached patients reported more intrusion of unwanted thoughts and feelings, more negative mood, and less mastery over their situation than securely attached patients. In general, insecurely and securely attached patients with higher levels of such adjustment difficulties, experienced more psychological distress (HADS). Surprisingly, insecurely and securely attached patients appeared to be equal in their self-perceived resolution of cancer related grief: they reported similar levels of acceptance of the cancer, and moving on with their life. Contrary to expectations, patients' self-perceived grief resolution was not related to their level of distress.

Finally, in *Chapter VI*, we describe our study of the relationship between attachment style and the physician-patient relationship at three and nine months after diagnosis. By means of questionnaires, we asked patients to what extent they trusted the physician who was most involved in their cancer treatment, and to what extent they were satisfied with their physician. Patients also filled out a questionnaire assessing psychological distress (HADS). Results showed, that at three as well as six months after diagnosis, insecurely attached patients reported less trust in and satisfaction with their physician, and experienced more general distress than securely attached patients. Furthermore, insecurely attached patients' lower level of trust contributed to their lower level of satisfaction with their physician, but did not contribute to their higher level of distress.

Taken together, although insecurely attached persons felt they were able to accept their illness and can move on with their life, in the first fifteen months after a cancer diagnosis they were more often struggling with psychological distress, poorer quality of life, and other adjustment difficulties than securely attached patients. Attachment style was also found to impact their relationship with their physician.

Discussion of our findings

In *Chapter VII*, we discuss our main findings, and strengths and limitations of our study. We provide suggestions on how knowledge of attachment style may be used within clinical practice, and discuss implications for future research. Our study contributed to the existing literature on attachment as well as adaptation to cancer, by prospectively investigating the part attachment style plays within the adaptation process. This thesis highlights the importance of being aware of a person's attachment style when providing medical or psychological treatment for cancer. Knowledge of attachment styles may help health care professionals interpreting patients' short and longer term responses to their diagnosis and behavior during treatment. In addition,

it may provide clues on how to meet patients' individual needs for care. This is likely to fostering trusting and satisfying therapeutic relationships, which may result in more favorable treatment behavior and outcomes. Future research is needed to examine an optimal time point and the best way to incorporate knowledge of attachment into psychological screening and treatment within (psycho-)oncology practice. For this purpose, research should study the process of adaptation to cancer of preoccupiedly, avoidantly and fearfully attached patients in more depth. This will foster our understanding of individual differences in adaptation and resilience, and will help in finding ways to support patients in their efforts to regain their well-being.

SAMENVATTING

Bijna iedereen die de diagnose kanker krijgt, ervaart deze als een heftige klap. Hoewel tegenwoordig steeds meer mensen met kanker genezen, lijkt de diagnose zelf onlosmakelijk verbonden te zijn met lijden en mogelijk sterven. Begrijpelijkerwijs leidt dit tot gevoelens van angst en kwetsbaarheid, of boosheid, of verdriet. Soms ook voelen mensen zich 'in shock', alsof hun wereld ineens tot stilstand wordt gebracht. Direct na de diagnose is er vaak weinig tijd om stil te staan bij wat je eigenlijk voelt en hoe je hiermee om moet gaan; behandelingen zijn intensief, en alle energie is gericht op lichamelijk herstel. Na deze eerste periode komt er meer ruimte voor gevoelens, en voor gedachten over wat de ziekte heeft gedaan en doet met jou en je omgeving. Naarmate de tijd verstrijkt, vinden de meeste mensen een manier om om te gaan met hun ziekte, en gaan zij zich in psychologisch opzicht weer beter voelen. Voor de één verloopt dit aanpassingsproces echter voorspoediger dan voor de ander. In deze dissertatie beschrijven we ons onderzoek naar hoe mensen omgaan met kanker, vanuit het perspectief van de Hechtingstheorie.

Introductie van de Hechtingstheorie

In het eerste deel van *Hoofdstuk I* introduceren we de Hechtingstheorie, en beschrijven we eerder onderzoek naar de relatie tussen gehechtheid en aanpassing aan stressvolle omstandigheden. De hechtingstheorie gaat ervan uit dat mensen een aangeboren behoefte hebben om de nabijheid van belangrijke anderen te zoeken, wanneer ze angstig, moe of anderszins gestrest zijn. De nabijheid van de ander zorgt voor gevoelens van veiligheid, rust of troost, en geeft vertrouwen dat het probleem het hoofd kan worden geboden. Mensen die vele positieve ervaringen hebben met de beschikbaarheid en responsiviteit van belangrijke anderen (zoals de verzorgers) in stressvolle omstandigheden, ontwikkelen positieve 'interne werkmodellen' (gedachten en verwachtingen) van zichzelf en anderen; ze raken *veilig gehecht*. Veilig gehechte mensen vinden dat ze het waard zijn om van gehouden te worden en zorg en aandacht te krijgen, en kunnen een goede band opbouwen met andere mensen. Ze hebben er vertrouwen in dat ze goed om kunnen gaan met stressvolle gebeurtenissen, en verwachten dat anderen er voor hen zullen zijn om te helpen als dat nodig is.

In sommige gevallen wordt het natuurlijke hechtingsproces echter verstoord, waardoor mensen *onveilig gehecht* raken. Vaak gebeurt dit al in de kindertijd, bijvoorbeeld wanneer de verzorgers op emotioneel gebied niet goed voor hun kind (kunnen) zorgen, en het kind voortdurend afgewezen, vernederd of genegeerd wordt. De emotionele behoefte van het kind aan veiligheid, liefde en zorg wordt dan niet vervuld. Herhaaldelijke negatieve interacties met belangrijke anderen kunnen ervoor zorgen dat het kind een negatief beeld van zichzelf en/of anderen in het algemeen ontwikkelt, en er niet op durft te vertrouwen dat anderen er voor het kind zullen zijn als dat nodig is. Bartholomew & Horowitz[25] (1991) hebben drie verschillende patronen van onveilige hechting bij volwassenen beschreven, gebaseerd op interne werkmodellen (positief of negatief) en de mate van angst en vermijding. Angstig ('preoccupiedly') gehechte personen hebben een negatief beeld van zichzelf, en een positief beeld van anderen. Hun behoefte aan hechting is sterk vergroot. Omdat zij weinig vertrouwen

hebben in hun eigen kunnen, richten zij zich op anderen om hen te helpen. Ze zijn echter angstig dat anderen er niet voor hen zullen zijn als dat nodig is, en proberen er daarom op allerlei manieren voor te zorgen dat anderen op hen gericht blijven. Vermijdend ('avoidantly') gehechte personen daarentegen, hebben een positief werkmodel van zichzelf, en een negatief model van anderen. Ze onderdrukken (onbewust) hun behoefte om gehecht te zijn aan anderen. Omdat ze anderen zien als niet beschikbaar of niet in staat om hen te helpen, vinden ze het belangrijk om onafhankelijk te zijn en zelf de controle te houden. Ze hebben het idee dat ze alleen op zichzelf kunnen vertrouwen. Angstig-vermijdend ('fearfully') gehechte personen hebben negatieve werkmodellen van zichzelf en anderen. Ze voelen zich niet in staat om op eigen kracht om te gaan met stressvolle gebeurtenissen, en hebben bij stress behoefte aan de steun van anderen. Ze zijn echter angstig dat anderen hen zullen afwijzen en verlaten, en vermijden het daarom om de nabijheid van anderen te zoeken en over hun gevoelens te praten. Uit eerder onderzoek is gebleken dat onveilig gehechte mensen in het algemeen meer negatieve stress ervaren onder stressvolle omstandigheden dan veilig gehechte mensen. Ze ervaren iets sneller als naar en bedreigend, kunnen minder goed met hun negatieve gedachten en emoties omgaan, en zijn minder goed in het vragen en gebruikmaken van emotionele steun.

In het laatste deel van *Hoofdstuk I* beschrijven we onze verwachtingen over hoe gehechtheid gerelateerd kan zijn aan aanpassing aan kanker. Aan het einde van *Hoofdstuk I* staan vignetten met voorbeelden van hoe personen met verschillende hechtingsstijlen met hun ziekte omgaan, en deze vignetten komen in elk hoofdstuk weer terug.

Het onderzoek

In *Hoofdstuk II* tot en met *VI* beschrijven we de bevindingen van onze eigen studies. Deze bevindingen zijn gebaseerd op 157 patiënten van het Academisch Medisch Centrum in Amsterdam, het Universitair Medisch Centrum Groningen, en het Martini Ziekenhuis in Groningen. De patiënten hadden een recente diagnose van borst-, prostaat-, darm-, of baarmoederhalskanker, en een levensverwachting van tenminste één jaar. Patiënten ontvingen informatie over het onderzoek van hun arts. Wanneer ze belangstelling hadden om mee te doen, werden ze (na verdere informatie ontvangen te hebben) binnen drie maanden na de diagnose geïnterviewd met het Attachment Style Interview.[27] Voor het huidige onderzoek hebben we onderscheid gemaakt tussen veilig gehechte patiënten en onveilig gehechte patiënten, en onderzocht in hoeverre er verschillen zijn tussen veilig en onveilig gehechte patiënten in hoe zij omgaan met de diagnose kanker. Van de patiënten die meewerkten aan dit onderzoek was ongeveer 40% onveilig gehecht, wat overeenkomt met percentages in de algemene bevolking. Aansluitend op dit hechtingsstijlinterview werd er een klinisch diagnostisch interview (miniSCAN) afgenomen, om te onderzoeken of er sprake was van psychiatrische stoornissen. Een jaar later (dus ongeveer 15 maanden na de diagnose) werd dit diagnostische interview opnieuw afgenomen. In het tussenliggende jaar hebben de patiënten vijf keer, om de drie maanden, een vragenlijstboekje ingevuld.

Onze bevindingen wijzen erop dat onveilig gehechte patiënten over het algemeen meer aanpassingsproblemen ervaren in de eerste vijftien maanden na de diagnose kanker dan veilig gehechte patiënten. In *Hoofdstuk II* wordt ons onderzoek naar de relatie tussen hechtingsstijl en psychische problemen rond drie en vijftien maanden na diagnose weergegeven. Allereerst hebben we de mate van psychisch stress van onveilig en veilig gehechte patiënten vergeleken. Psychische stress werd onderzocht door middel van een vragenlijst. De resultaten lieten zien dat onveilig gehechte patiënten rond drie maanden na de diagnose meer psychische stress ervaarden dan veilig gehechte patiënten. Hoewel hun mate van psychische stress afnam met de tijd, net zoals dat bij veilig gehechte patiënten het geval was, hadden onveilig gehechte patiënten ook rond 15 maanden na de diagnose meer stress. Deze bevinding bevestigt eerdere onderzoeksbevindingen waaruit bleek dat onveilig gehechte mensen kwetsbaarder zijn voor psychische stress na een heftige gebeurtenis zoals kanker. Vervolgens hebben we de aanwezigheid van psychopathologie bij onveilig en veilig gehechte patiënten vergeleken. Psychopathologie werd onderzocht door middel van het eerder genoemde klinisch diagnostische interview (miniSCAN). We maakten onderscheid tussen patiënten die op basis van het interview (a) een stoornis hadden; (b) symptomen hadden, maar onder de cut-off voor een stoornis zaten; (c) geen symptomen rapporteerden. Tegen de verwachtingen in, bleek dat onveilig en veilig gehechte patiënten in vergelijkbare mate (symptomen van) psychiatrische stoornissen ontwikkelden. Onveilig gehechte patiënten bleken echter wel minder veerkrachtig te zijn in het herstellen van psychopathologie. Tot slot vroegen we de patiënten tijdens het eerste interview rond drie maanden na diagnose, in hoeverre zij in het verleden psychische problemen hadden ervaren, en of er een psychiatrische stoornis was vastgesteld. Onveilig en veilig gehechte patiënten gaven even vaak aan dat ze in het verleden psychische problemen of psychiatrische stoornissen hadden gehad.

Onveilig gehechte patiënten ervaarden ook een lagere kwaliteit van leven dan veilig gehechte mensen, wat beschreven is in *Hoofdstuk III*. We legden patiënten een vragenlijst voor over onder andere hun fysieke, cognitieve, emotionele en sociale functioneren, en hun algehele gezondheidsgerelateerde kwaliteit van leven. De resultaten lieten zien dat onveilig gehechte patiënten met name rond drie maanden na de diagnose veel meer beperkingen in hun dagelijks functioneren en een lagere algehele kwaliteit van leven ervaarden dan veilig gehechte patiënten. Met de tijd verbeterde hun functioneren: rond negen en vijftien maanden na de diagnose was hun functioneren op de meeste gebieden vergelijkbaar met dat van veilig gehechte patiënten. Hun fysieke functioneren (bijvoorbeeld lopen, boodschappen doen) en cognitieve functioneren (aandacht en concentratie) was rond vijftien maanden na de diagnose echter slechter, en ook hun algehele kwaliteit van leven vonden ze lager dan veilig gehechte patiënten.

We vroegen patiënten ook naar de rol die de kanker speelde in hun leven en hun kijk op zichzelf en anderen, in deze dissertatie 'centraal staan van de kanker' genoemd. Zes maanden na de diagnose was de mate waarin onveilig en veilig gehechte patiënten de kanker centraal vonden staan vergelijkbaar. Met de tijd werd de rol die de kanker speelde in het leven van veilig gehechte patiënten kleiner. Voor onveilig gehechte mensen bleef de kanker over tijd echter in dezelfde mate centraal staan; het lijkt alsof ze

hun ziekte minder goed los konden laten dan veilig gehechte patiënten. Over het algemeen functioneerden zowel onveilig als veilig gehechte patiënten waarbij de kanker meer centraal stond rond 15 maanden na de diagnose, slechter in het dagelijks leven dan patiënten waarbij de kanker een minder grote rol in het leven speelde. Ook hadden patiënten waarbij de kanker meer centraal stond een lagere algehele kwaliteit van leven.

In *Hoofdstuk II* en *III* hebben we een beeld gekregen van de mate van psychische stress van de patiënten, middels twee vragenlijsten: de Hospital Anxiety and Depression Scale (HADS, *Hoofdstuk II*) en de Emotioneel Functioneren schaal binnen de vragenlijst over kwaliteit van leven (EF schaal, *Hoofdstuk III*). In *Hoofdstuk IV* onderzoeken we allereerst in hoeverre men op basis van scores op deze stress-vragenlijsten, een uitspraak kan doen over iemands niveau van psychopathologie zoals onderzocht met het klinisch diagnostische interview. Hiervoor hebben we, net als in *Hoofdstuk II*, onderscheid gemaakt tussen drie niveaus: (a) stoornis aanwezig; (b) symptomen, maar geen stoornis; (c) geen symptomen. De resultaten lieten zien dat de vragenlijsten en het klinisch diagnostisch interview op drie maanden na diagnose sterk met elkaar samenhingen, en dat de vragenlijsten vergelijkbaar waren in het kunnen identificeren van patiënten op drie verschillende niveaus van psychopathologie. Daarnaast vergeleken we de mate van psychische stress zoals gerapporteerd op de vragenlijsten, van onveilig en veilig gehechte patiënten met vergelijkbare niveaus van psychopathologie. Onveilig gehechte patiënten rapporteerden een hogere mate van psychische stress op de vragenlijsten dan veilig gehechte patiënten, op alle drie niveaus van psychopathologie. Bijvoorbeeld, onveilig gehechte patiënten zonder symptomen rapporteerden meer psychische stress op de vragenlijsten dan veilig gehechte patiënten zonder symptomen; en onveilig gehechte patiënten met een stoornis rapporteerden meer psychische stress op de vragenlijsten dan veilig gehechte patiënten. Dus, aan de ene kant lijken de vragenlijsten een redelijke indicatie te kunnen geven van de aanwezigheid van psychopathologie. Aan de andere kant lijken de resultaten van een klinisch diagnostisch interview niet altijd inzicht te kunnen geven in verschillen in meer algemene stress tussen veilig en onveilig gehechte patiënten. Wellicht reageren onveilig gehechte personen anders op vragen over hun psychische problemen wanneer zij vragenlijsten invullen, dan wanneer zij bevraagd worden door een psycholoog tijdens een klinisch diagnostisch interview. Vervolgonderzoek zou hier meer duidelijkheid over kunnen geven.

In *Hoofdstuk V* hebben we met behulp van verschillende vragenlijsten geprobeerd meer inzicht te krijgen in de manier waarop onveilig en veilig gehechte patiënten zich aanpassen aan hun ziekte rond zes en twaalf maanden na de diagnose kanker. Onveilig gehechte patiënten rapporteerden onder andere meer nare gedachten en gevoelens over kanker, een slechtere stemming, en minder mastery over hun situatie dan veilig gehechte patiënten. Patiënten die meer van dergelijke moeilijkheden rapporteerden, ervaarden ook meer psychische stress. Het was daarom verrassend om te constateren dat onveilig en veilig gehechte patiënten in vergelijkbare mate vonden dat ze de ziekte konden accepteren, en verder konden gaan met hun leven (in de dissertatie 'verliesverwerking' genoemd). Tegen de verwachtingen in, vonden patiënten die veel psychische

stress ervaarden, net zo vaak dat ze hun verlies goed konden verwerken als patiënten die weinig stress ervaarden.

Tot slot beschrijven we in *Hoofdstuk VI* ons onderzoek naar de samenhang tussen hechtingsstijl en de arts-patiëntrelatie rond drie en negen maanden na de diagnose. We hebben patiënten door middel van een vragenlijst gevraagd, in hoeverre zij vertrouwen hadden in de arts die het meest betrokken was bij hun behandeling tegen kanker. We vroegen onder andere of zij er vertrouwen in hadden dat hun arts zorgvuldig handelde, en beslissingen nam die het beste waren voor hen als patiënt. Ook legden we de patiënten vragen voor over hun tevredenheid met hun arts. De resultaten lieten zien dat onveilig gehechte patiënten minder vertrouwen hadden in hun behandelend arts dan veilig gehechte patiënten, en (mede daardoor) ook minder tevreden waren met hun arts. Daarnaast onderzochten we in hoeverre vertrouwen in de arts bijdroeg aan de mate van psychische stress van patiënten. Onveilig gehechte patiënten hadden meer psychische stress dan veilig gehechte patiënten ongeacht de mate van vertrouwen in hun arts.

Samengevat kan worden gesteld dat hoewel onveilig gehechte mensen even sterk als veilig gehechte patiënten het gevoel hebben dat ze hun ziekte kunnen accepteren en verder kunnen gaan met hun leven, ze in de eerste vijftien maanden na de diagnose vaker worstelen met psychische stress, lagere kwaliteit van leven en andere aanpassingsmoeilijkheden dan veilig gehechte patiënten. Daarnaast blijkt hechtingsstijl een rol te spelen binnen de arts-patiëntrelatie.

Discussie van de bevindingen

In *Hoofdstuk VII* bespreken we onze belangrijkste bevindingen, en sterke en zwakke kanten van ons onderzoek. Verder bieden we suggesties voor de toepassing van kennis over hechtingsstijl in de klinische praktijk, en bespreken implicaties voor toekomstig onderzoek. Ons onderzoek heeft bijgedragen aan de al bestaande literatuur over zowel hechting als aanpassing aan kanker, door prospectief te kijken naar de rol die hechtingsstijl speelt in het aanpassingsproces. Kennis van hechtingsstijlen kan medische en psychologische professionals inzicht geven in de achtergrond van de emoties en het gedrag van mensen in reactie op de diagnose en tijdens behandeling, zowel op korte als langere termijn. Ook kan deze kennis aanwijzingen geven over hoe tegemoet kan worden gekomen aan de individuele zorgbehoeften van patiënten. Dit zal naar verwachting bijdragen aan het opbouwen van een goede en bevredigende therapeutische werkrelatie, wat een positieve invloed kan hebben op de behandeling. Toekomstig onderzoek is nodig om te onderzoeken wat het beste moment en de beste manier is om hechtingsstijl te betrekken bij psychologische screening en behandeling in de (psycho-)oncologische praktijk. Dit onderzoek zou zich moeten richten op het afzonderlijke aanpassingsproces van mensen met een angstige, vermijdende, en angstig-vermijdende hechtingsstijl. Hierdoor zullen we individuele verschillen in aanpassingsvermogen en veerkracht beter kunnen begrijpen, en meer inzicht krijgen in hoe we patiënten zo kunnen helpen, dat zij op een voor hen optimale manier met de diagnose kanker om kunnen gaan.

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Dankwoord

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